

NSX-SZ20

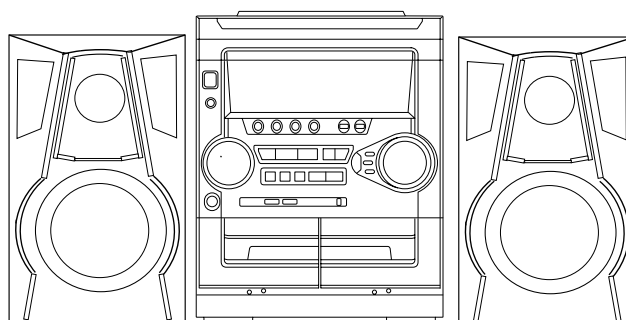
HA, HR

NSX-SZ21

LH

NSX-SZ20E

HA



SERVICE MANUAL

COMPACT DISC
STEREO SYSTEM

BASIC TAPE MECHANISM : ZM-3 PR1NM/YPR1NM
BASIC CD MECHANISM : AZG-1 ZD8RDM/
YZD8RDM/YZD8RDCM

SYSTEM	CD CASSEIVER	SPEAKER	REMOTE CONTROLLER
NSX-SZ20	CX-NSZ20	SX-NSZ22	RC-ZAS02
NSX-SZ21	CX-SNSZ21	SX-SNSZ22	
NSX-SZ20E	CX-NSZ20E	SX-NSZ22	

SYSTEM	TAPE MECHANISM	CD MECHANISM
NSX-SZ20	ZM-3 PR1NM	AZG-1 ZD8RDM
NSX-SZ21	ZM-3 YPR1NM	AZG-1 YZD8RDM
NSX-SZ20E		AZG-1 YZD8RDCM

- If requiring information about the CD mechanism, see Service Manual of AZG-1 ZD8RDM / YZD8RDM, (S/M Code No. 09-001-335-3N6) and AZG-1 YZD8RDCM, (S/M Code No. 09-001-335-3NA).

aiwa

S/M Code No. 09-005-423-4R3

SPECIFICATIONS

<FM tuner section>

Tuning range	87.5 MHz to 108 MHz
Usable sensitivity (IHF)	13.2 dBf
Antenna terminals	75 ohms (unbalanced)

<MW tuner section>

Tuning range	531 kHz to 1602 kHz (9 kHz step) 530 kHz to 1710 kHz (10 kHz step)
Usable sensitivity	350 µV/m
Antenna	Loop antenna

<SW tuner section> <HR only>

Tuning range	5.730 MHz to 17.900 MHz
Usable sensitivity	40 µV (IEC)
Antenna	Wire antenna

<Amplifier section>

Power output	HR: Rated: 24 W + 24 W (6 ohms, THD 1%, 1 kHz) Reference: 30 W + 30 W (6 ohms, THD 10%, 1 kHz) LH, HA: Rated: 40 W + 40 W (6 ohms, THD 1%, 1 kHz) Reference: 50 W + 50 W (6 ohms, THD 10%, 1 kHz)
Total harmonic distortion	HR: 0.08% (15 W, 1 kHz, 6 ohms, DIN AUDIO) LH, HA: 0.05% (25 W, 1 kHz, 6 ohms, DIN AUDIO)
Inputs	VIDEO/AUX: 500 mV HR: MIC: 1.0 mV (10 K ohms)
Outputs	SPEAKERS: accept speakers of 6 ohms or more PHONES (stereo jack) : accepts headphones of 32 ohms or more

<Cassette deck section>

Track format	4 tracks, 2 channels stereo
Frequency response	50 Hz – 15 kHz
Recording system	AC bias
Heads	Deck 1 : Playback head x 1 Deck 2 : Recording/Playback head x 1, erase head x 1

<Compact disc player section>

Laser	Semiconductor laser (λ = 780 nm)
D-A converter	1 bit dual
Signal-to-noise ratio	85 dB (1 kHz, 0 dB)
Harmonic distortion	0.05 % (1 kHz, 0 dB)

<Speaker system>

<HR,HA: SX-NSZ22, LH: SX-SNSZ22>

Speaker system	3 way, bass reflex (magnetic shielded type)
Speaker units	Woofer: 140 mm cone type Tweeter: 60mm cone type Super tweeter: 20 mm ceramic type
Impedance	6 ohms
Output sound pressure level	87 dB/W/m
Dimensions (W x H x D)	230 x 324x 256 mm
Weight	3.8 kg

<General>

Power requirements	120 V/220-230 V/240 V AC (switchable), 50/60 Hz
Power consumption	HR: 70 W LH, HA: 80 W
Power consumption	With power-economizing mode off : 13 W With power-economizing mode on : 0.9 W
Dimensions of main unit (W x H x D)	260 x 328 x 335 mm
Weight of main unit	HR: 5.6 kg LH, HA: 6.3 kg

• Design and specifications are subject to change without notice.

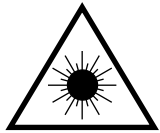
• The word "BBE" and the "BBE symbol" are trademarks of BBE Sound, Inc.
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PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

VAROITUS!

Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyttäjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

WARNING!

Om apparaten används på annat sätt än vad som specificeras i denna bruksanvisning, kan användaren utsättas för osynlig laserstrålning, som överskrider gränsen för laserklass 1.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

ATTENTION

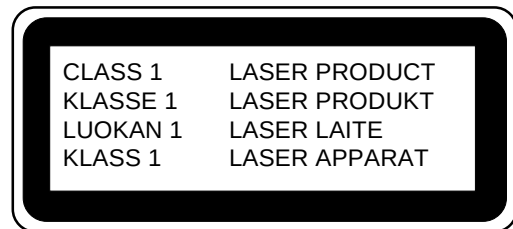
L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

ADVARSEL

Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

This Compact Disc player is classified as a CLASS 1 LASER product.

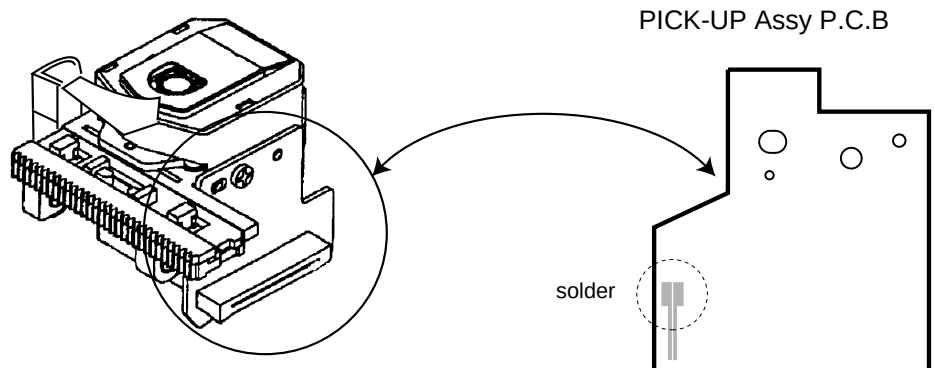
The CLASS 1 LASER PRODUCT label is located on the rear exterior.



Precaution to replace Optical block (KSM-880CAB)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

- 1) After the connection, remove solder shown in the right figure.



NOTE ON BEFORE STARTING REPAIR

1. Forced discharge of electrolytic capacitor of power supply block

When repair is going to be attempted in the set that uses relay circuit in the power supply block, electric potential is kept charged across the electrolytic capacitors (C101, 102) even though AC power cord is removed. If repair is attempted in this condition, secondary defect can occur.

In order to prevent the secondary trouble, perform the following measures before starting repair work.

Discharge procedure

- ① Remove the AC power cord.
- ② Connect a discharging resistor at an end of lead wire that has clips at both ends. Connect the other end of the lead wire to metal chassis.
- ③ Contact the other end of the discharging resistor to the positive (+) side (+VH) of C101. (For two seconds)
- ④ Contact the same end of the discharging resistor as step ③ to the negative (-) side (-VH) of C102 in the same way. (For two seconds)
- ⑤ Check that voltage across C101 and C102 has decreased to 1 V or less using a multimeter or an oscilloscope.

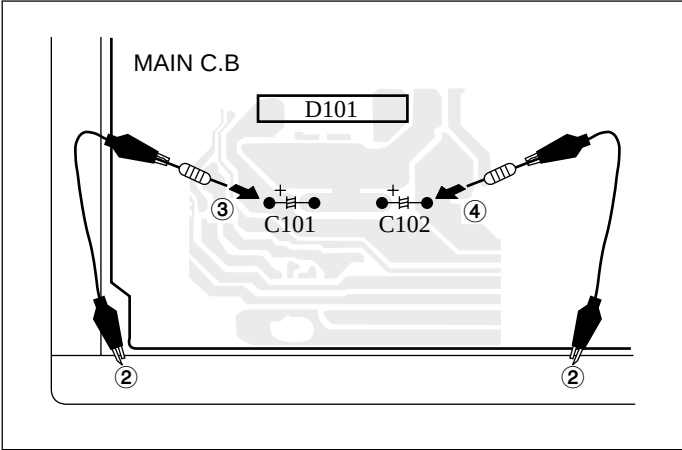


Fig-1

Select a discharging resistor referring to the following table.

Charging voltage (V) (C101, 102)	Discharging resistor (Ω)	Rated power (W)	Parts number
25-48	100	3	87-A00-247-090
49-140	220	5	87-A00-232-090

Note: The reference numbers (C101, C102) of the electrolytic capacitors can change depending on the models. Be sure to check the reference numbers of the charging capacitors on schematic diagram before starting the discharging work.

2. Check items before exchanging the MICROCOMPUTER

Be sure to check the following items before exchanging the MICROCOMPUTER. Exchange the MICROCOMPUTER after confirming that the MICROCOMPUTER is surely defective.

2-1. Regarding the HOLD terminal of the MICROCOMPUTER

When the HOLD terminal (INPUT) of the MICROCOMPUTER is “H”, the MICROCOMPUTER is judged to be operating correctly. When this terminal is “L”, the main power cannot be turned on. Therefore, be sure to check the terminal voltage of the HOLD terminal before exchange.

When the MICROCOMPUTER is not defective, the HOLD terminal can also go “L” when the POWER AMPLIFIER has any abnormalities that triggers the abnormality detection circuit on the MAIN C. B. that sets the HOLD terminal to “L”.

- Good or no good judgement of the MICROCOMPUTER
 - ① Turn on the AC main power.
 - ② Confirm that the main power is turned on and the HOLD terminal of the MICROCOMPUTER keeps the “H” level or not.
 - ③ When the HOLD terminal is “L” level, the abnormality detection circuit is judged to be working correctly and the MICROCOMPUTER is judged to be good.

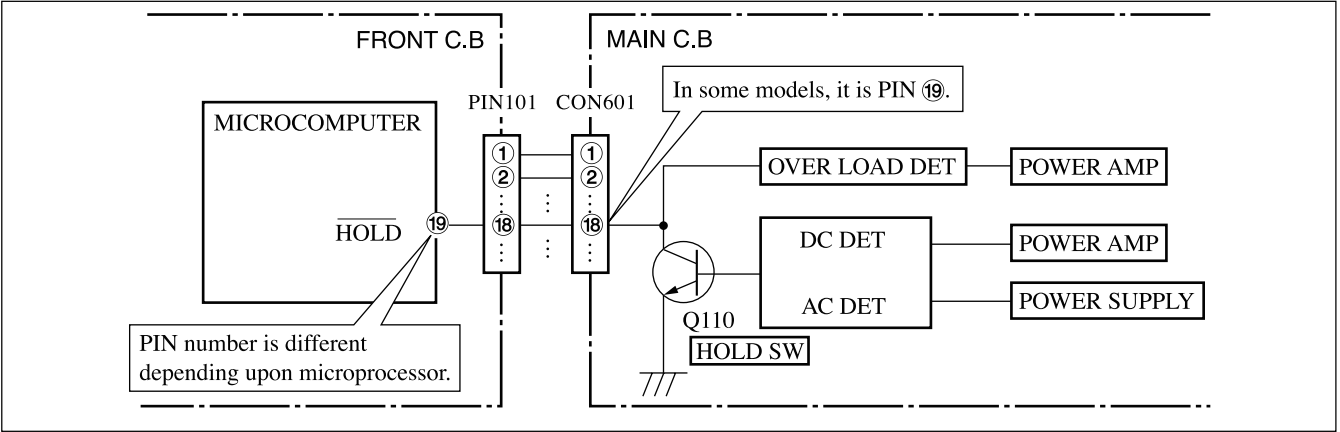


Fig-2-1

In such a case, check also if the POWER AMPLIFIER circuit or power supply circuit has any abnormalities or not.

2-2. Regarding reset

There are cases that the machine does not work correctly because the MICROCOMPUTER is not reset even though the AC power cord is re-inserted, or the software reset (pressing the STOP key + POWER key) is performed.

When the above described phenomenon occurs, it can lead to wrong judgement as if the MICROCOMPUTER is defective and to exchange the MICROCOMPUTER. In such a case, perform the forced-reset by the following procedure and check good or no good of the MICROCOMPUTER.

- ① Remove the AC power cord.

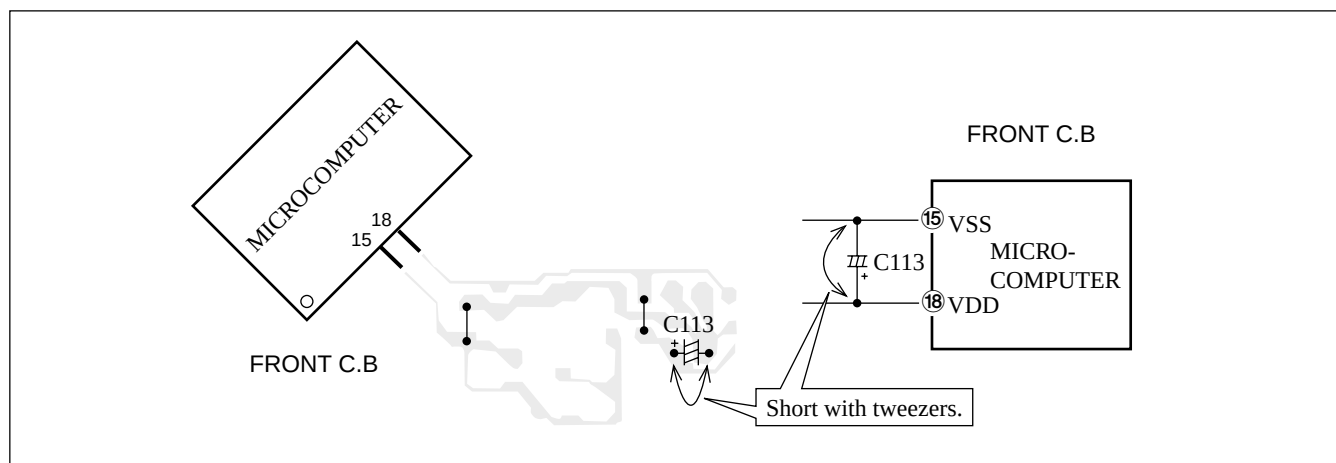


Fig-2-2

- ② Short both ends of the electrolytic capacitor C113 that is connected to VDD of the MICROCOMPUTER with tweezers.
- ③ Connect the AC power cord again. If the MICROCOMPUTER returns to the normal operation, the MICROCOMPUTER is good.

Note: The reference number or MICROCOMPUTER pin number of transistor (Q110) and electrolytic capacitor (C113) can change depending on the models. Be sure to check the reference numbers on schematic diagram before starting the discharging work.

2-3. Confirmation of soldering state of MICROCOMPUTER

Check the soldering state of the MICROCOMPUTER in addition to the above described procedures. Be sure to exchange the MICROCOMPUTER after surely confirming that the trouble is not caused by poor soldering but the MICROCOMPUTER itself.

ELECTRICAL MAIN PARTS LIST

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
IC				C20	87-A12-036-000		CAP, E 2200-63 SMG<LH, HA>
	87-A21-396-010		IC, STK490-040<HR>	C21	87-016-495-000		CAP, E 3300-25 M SMG<HR>
	87-A21-398-010		IC, STK490-110<LH, HA>	C21	87-A10-520-000		CAP, E 3300-35 M SMG<LH, HA>
	87-A21-419-040		C-IC, NJM14558MD-TE2	C22	87-016-495-000		CAP, E 3300-25 M SMG<HR>
	87-A21-401-040		C-IC, M61503FP	C22	87-A10-520-000		CAP, E 3300-35 M SMG<LH, HA>
	87-A21-415-010		IC, LA1843				
	8A-NF9-601-110		C-IC, UPD780226GF-014-3BA<HR, LH>	C25	87-010-385-080		CAP, ELECT 220-25V
	8A-NF9-601-010		C-IC, UPD780226GF-012-3BA<HA>	C26	87-010-247-080		CAP, ELECT 100-50V
	87-A21-482-010		IC, RPM6938-H4	C30	87-010-430-080		CAP, ELECT 100-63
	87-070-127-110		IC, LC72131 D	C31	87-010-263-080		CAP, ELECT 100-10V
	87-A21-269-010		IC, EW732	C32	87-010-197-080		CAP, CHIP 0.01 DM
TRANSISTOR				C34	87-010-247-080		CAP, ELECT 100-50V
	87-026-609-080		TR, KTA1266GR	C35	87-010-380-080		CAP, ELECT 47-16V
	89-213-702-010		TR, 2SB1370E(1.8W)	C36	87-010-381-080		CAP, ELECT 330-16V
	87-026-610-080		TR, KTC3198GR	C38	87-010-197-080		CAP, CHIP 0.01 DM
	87-A30-076-080		C-TR, 2SC3052F	C60	87-010-403-080		CAP, ELECT 3.3-50V
	87-A30-075-080		C-TR, 2SA1235F				
	87-026-245-080		TR, DTC114ES	C61	87-010-260-080		CAP, ELECT 47-25V
	87-A30-198-080		TR, KTC3199GR	C97	87-010-196-080		CHIP CAPACITOR, 0.1-25
	87-A30-074-080		C-TR, RT1P 141C	C101	87-010-185-080		C-CAP, S 3900P-50 B
	87-A30-468-080		C-TR, KRC102S-RTK<HR, LH>	C102	87-010-185-080		C-CAP, S 3900P-50 B
	87-A30-073-080		C-TR, RT1N 141C<HA>	C103	87-010-545-080		CAP, ELECT 0.22-50V
	87-A30-107-070		C-TR, CMBT5401	C104	87-010-545-080		CAP, ELECT 0.22-50V
	87-A30-106-040		C-TR, CMBT5551	C105	87-010-187-080		CAP CHIP S5600P
	87-A30-087-080		C-FET, 2SK2158	C106	87-010-187-080		CAP CHIP S5600P
	87-A30-091-080		FET, 2SJ460	C107	87-010-404-080		CAP, ELECT 4.7-50V
	87-A30-090-080		FET, 2SK2541	C108	87-010-404-080		CAP, ELECT 4.7-50V
	87-A30-062-080		C-TR, KRC104S<HR, LH>	C111	87-010-391-080		CAP, E 10-35 SME
	87-A30-104-080		C-TR, RT1N 441C<HA>	C112	87-010-391-080		CAP, E 10-35 SME
	87-A30-318-080		TR, CSA952K	C113	87-010-405-080		CAP, ELECT 10-50V
	89-333-317-880		TR, 2SC3331 (0.5W)	C114	87-010-405-080		CAP, ELECT 10-50V
	87-A30-329-080		TR, CD1585BC	C119	87-010-197-080		CAP, CHIP 0.01 DM
	89-327-143-080		TR, 2SC2714(0)(0.1W)	C120	87-010-197-080		CAP, CHIP 0.01 DM
	87-A30-072-080		C-TR, RT1P 144C	C125	87-012-368-080		C-CAP, S 0.1-50 F
	87-A30-086-040		C-TR, CSD1306E<HR>	C126	87-012-368-080		C-CAP, S 0.1-50 F
	89-503-602-080		C-FET, 2SK360E<HR>	C127	87-012-368-080		C-CAP, S 0.1-50 F
	87-A30-234-080		TR, CSC4115BC	C128	87-012-368-080		C-CAP, S 0.1-50 F
DIODE				C129	87-010-191-080		C-CAP, S 0.015-50 F
	87-020-465-080		DIODE, 1SS133	C130	87-010-191-080		C-CAP, S 0.015-50 F
	87-A40-535-080		DIODE, 1N5393-GOODARK	C131	87-010-197-080		CAP, CHIP 0.01 DM
	87-A40-455-090		DIODE, RL203 GW<LH, HA>	C132	87-010-197-080		CAP, CHIP 0.01 DM
	87-A40-553-080		DIODE, 1N4003 LES	C133	87-010-186-080		CAP, CHIP 4700P
	87-A40-776-080		ZENER, UZ27BSD	C140	87-010-182-080		C-CAP, S 2200P-50 B
	87-A40-764-080		ZENER, UZ10BSC	C141	87-010-196-080		CHIP CAPACITOR, 0.1-25
	87-A40-313-080		C-DIODE, MC 2840	C239	87-010-196-080		CHIP CAPACITOR, 0.1-25
	87-A40-270-080		C-DIODE, MC2838	C301	87-010-178-080		CHIP CAP 1000P
	87-A40-269-080		C-DIODE, MC2836	C302	87-010-178-080		CHIP CAP 1000P
	87-A40-854-080		ZENER, UZ15BSA	C303	87-010-178-080		CHIP CAP 1000P
	87-A40-752-080		ZENER, UZ6.2BSC	C304	87-010-178-080		CHIP CAP 1000P
	87-A40-739-080		ZENER, UZ2.7BSA	C307	87-010-263-080		CAP, ELECT 100-10V
	87-017-149-080		ZENER, HZS6A2L	C308	87-010-263-080		CAP, ELECT 100-10V
				C309	87-010-318-080		C-CAP, S 47P-50 CH
MAIN C.B				C310	87-010-318-080		C-CAP, S 47P-50 CH
	87-012-368-080		C-CAP, S 0.1-50 F	C313	87-010-188-080		CAP, CHIP 6800P
C3	87-012-368-080		C-CAP, S 0.1-50 F	C314	87-010-188-080		CAP, CHIP 6800P
C4	87-012-368-080		C-CAP, S 0.1-50 F	C315	87-010-263-080		CAP, ELECT 100-10V
C5	87-012-368-080		C-CAP, S 0.1-50 F	C317	87-010-546-080		CAP, ELECT 0.33-50V
C6	87-012-368-080		C-CAP, S 0.1-50 F	C318	87-010-546-080		CAP, ELECT 0.33-50V
C9	87-012-368-080		C-CAP, S 0.1-50 F	C326	87-010-198-080		CAP, CHIP 0.022
				C327	87-012-368-080		C-CAP, S 0.1-50 F
C10	87-012-368-080		C-CAP, S 0.1-50 F	C360	87-010-401-080		CAP, ELECT 1-50V
C11	87-012-368-080		C-CAP, S 0.1-50 F	C399	87-012-140-080		CAP 470P
C12	87-012-368-080		C-CAP, S 0.1-50 F				
C19	87-A10-627-000		CAP, E 2200-50 M SMG<HR>	C401	87-010-544-080		CAP, ELECT 0.1-50V
C19	87-A12-036-000		CAP, E 2200-63 SMG<LH, HA>	C402	87-010-544-080		CAP, ELECT 0.1-50V
				C403	87-010-321-080		CHIP CAPACITOR, 82P(J)
				C404	87-010-321-080		CHIP CAPACITOR, 82P(J)
				C405	87-010-197-080		CAP, CHIP 0.01 DM
				C406	87-010-197-080		CAP, CHIP 0.01 DM
				C407	87-010-197-080		CAP, CHIP 0.01 DM
				C408	87-010-197-080		CAP, CHIP 0.01 DM
				C409	87-010-182-080		C-CAP, S 2200P-50 B
C20	87-A10-627-000		CAP, E 2200-50 M SMG<HR>	C410	87-010-182-080		C-CAP, S 2200P-50 B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C411	87-010-405-080		CAP, ELECT 10-50V	C844	87-010-197-080		CAP, CHIP 0.01 DM
C412	87-010-405-080		CAP, ELECT 10-50V	C850	87-010-260-080		CAP, ELECT 47-25V
C452	87-010-382-080		CAP, ELECT 22-25V	C851	87-010-197-080		CAP, CHIP 0.01 DM
C453	87-010-183-080		C-CAP, S 2700P-50 B	C852	87-010-197-080		CAP, CHIP 0.01 DM
C454	87-010-183-080		C-CAP, S 2700P-50 B	C853	87-010-197-080		CAP, CHIP 0.01 DM
C455	87-010-183-080		C-CAP, S 2700P-50 B	C858	87-010-196-080		CHIP CAPACITOR, 0.1-25
C456	87-010-197-080		CAP, CHIP 0.01 DM	C859	87-010-196-080		CHIP CAPACITOR, 0.1-25
C460	87-010-196-080		CHIP CAPACITOR, 0.1-25	C860	87-010-197-080		CAP, CHIP 0.01 DM
C461	87-012-158-080		C-CAP, S 390P-50 CH	C940	87-010-197-080		CAP, CHIP 0.01 DM<HR>
C462	87-012-158-080		C-CAP, S 390P-50 CH	C941	87-010-314-080		C-CAP, S 22P-50V<HR>
C605	87-010-179-080		CAP, CHIP S B1200P	C943	87-010-197-080		CAP, CHIP 0.01 DM<HR>
C606	87-010-179-080		CAP, CHIP S B1200P	C945	87-010-197-080		CAP, CHIP 0.01 DM<HR>
C609	87-010-213-080		C-CAP, S 0.015-50 B	C946	87-010-971-080		C-CAP, S 4700P-50 B J<HR>
C610	87-010-213-080		C-CAP, S 0.015-50 B	C947	87-010-197-080		CAP, CHIP 0.01 DM<HR>
C611	87-010-545-080		CAP, ELECT 0.22-50V	C948	87-010-148-080		CAP, CHIP S 4P-50<HR>
C612	87-010-545-080		CAP, ELECT 0.22-50V	C952	87-010-197-080		CAP, CHIP 0.01 DM<HR>
C613	87-010-545-080		CAP, ELECT 0.22-50V	C953	87-010-197-080		CAP, CHIP 0.01 DM<HR>
C614	87-010-545-080		CAP, ELECT 0.22-50V	C954	87-010-400-080		CAP, ELECT 0.47-50V<HR>
C615	87-010-154-080		CAP CHIP 10P	C956	87-010-263-080		CAP, ELECT 100-10V<HR>
C616	87-010-221-080		CAP, ELECT 470-10V	C959	87-010-196-080		CHIP CAPACITOR, 0.1-25
C617	87-010-221-080		CAP, ELECT 470-10V	C960	87-010-196-080		CHIP CAPACITOR, 0.1-25<LH, HA>
C618	87-010-405-080		CAP, ELECT 10-50V	C961	87-010-152-080		C-CAP, S 8P-50 CH<LH, HA>
C630	87-016-669-080		C-CAP, S 0.1-25 K B	C962	87-010-401-080		CAP, ELECT 1-50V<HR>
C631	87-010-185-080		C-CAP, S 3900P-50 B	C963	87-015-785-080		CHIP CAPACITOR, 0.1FZ-25Z
C632	87-010-185-080		C-CAP, S 3900P-50 B	C964	87-010-854-080		C-CAP, S 560PCH<HR>
C633	87-016-369-080		C-CAP, S 0.033-25 B K	C971	87-010-381-080		CAP, ELECT 330-16V
C634	87-016-369-080		C-CAP, S 0.033-25 B K	C972	87-010-404-080		CAP, ELECT 4.7-50V
C669	87-010-322-080		C-CAP, S 100P-50 CH	C973	87-010-197-080		CAP, CHIP 0.01 DM
C670	87-010-322-080		C-CAP, S 100P-50 CH	C974	87-010-197-080		CAP, CHIP 0.01 DM
C671	87-010-196-080		CHIP CAPACITOR, 0.1-25<HR>	C979	87-010-322-080		C-CAP, S 100P-50 CH
C672	87-010-196-080		CHIP CAPACITOR, 0.1-25<HR>	C981	87-010-260-080		CAP, ELECT 47-25V
C673	87-010-182-080		C-CAP, S 2200P-50 B<HR>	C982	87-010-196-080		CHIP CAPACITOR, 0.1-25
C677	87-010-197-080		CAP, CHIP 0.01 DM	C983	87-010-197-080		CAP, CHIP 0.01 DM
C771	87-010-263-080		CAP, ELECT 100-10V	C984	87-010-197-080		CAP, CHIP 0.01 DM
C772	87-010-197-080		CAP, CHIP 0.01 DM	C987	87-010-197-080		CAP, CHIP 0.01 DM
C782	87-010-197-080		CAP, CHIP 0.01 DM	C989	87-010-197-080		CAP, CHIP 0.01 DM<HR>
C783	87-010-197-080		CAP, CHIP 0.01 DM	C991	87-010-312-080		C-CAP, S 15P-50 CH
C784	87-010-197-080		CAP, CHIP 0.01 DM	C992	87-010-312-080		C-CAP, S 15P-50 CH
C785	87-010-197-080		CAP, CHIP 0.01 DM	C993	87-010-178-080		CHIP CAP 1000P
C786	87-010-197-080		CAP, CHIP 0.01 DM	C995	87-010-178-080		CHIP CAP 1000P
C788	87-010-149-080		C-CAP, S 5P-50 CH	C997	87-010-196-080		CHIP CAPACITOR, 0.1-25
C789	87-A10-801-080		C-CAP, S 0.022-16 J B<HR>	C998	87-010-260-080		CAP, ELECT 47-25V
C789	87-A12-052-080		C-CAP, S 0.033-25 J B<LH, HA>	C999	87-A11-155-080		CAP, TC U 0.01-16 Z F
C790	87-A10-801-080		C-CAP, S 0.022-16 J B<HR>	CF831	87-008-261-010		FILTER, SFE10.7MA5-A
C790	87-A12-052-080		C-CAP, S 0.033-25 J B<LH, HA>	CF832	87-008-261-010		FILTER, SFE10.7MA5-A
C791	87-010-196-080		CHIP CAPACITOR, 0.1-25	CN301	87-A60-620-010		CONN, 3P V 2MM JMT
C792	87-010-197-080		CAP, CHIP 0.01 DM	CN351	87-A60-625-010		CONN, 8P V 2MM JMT
C793	87-010-404-080		CAP, ELECT 4.7-50V	CN601	87-099-719-010		CONN, 30P TYK-B(X)
C795	87-010-197-080		CAP, CHIP 0.01 DM	CN602	87-A60-131-010		CONN, 6P V FE
C796	87-010-197-080		CAP, CHIP 0.01 DM	CNA1	8A-NF8-653-010		CONN ASSY, 9P TID-A(480)
C797	87-010-405-080		CAP, ELECT 10-50V	D951	87-A40-618-080		VARI-CAP, SVC 348(S/T)<HR>
C798	87-010-197-080		CAP, CHIP 0.01 DM	FC104	88-911-101-110		FF-CABLE, 11P 1.25<HR, LH>
C799	87-010-407-080		CAP, ELECT 33-50V	FC602	88-906-251-110		FF-CABLE, 6P 1.25<HR, LH>
C800	87-012-369-080		C-CAP, S 0.047-50F	FC731	88-913-301-110		FF-CABLE, 13P-1.25<HR, LH>
C801	87-010-403-080		CAP, ELECT 3.3-50V	FFE831	A8-8ZA-190-030		8ZA-1 FEUNM<HR, HA>
C802	87-010-194-080		CAP, CHIP 0.047	FFE831	A8-8ZA-191-030		8ZA-1 YFEUNM<LH>
C803	87-010-198-080		CAP, CHIP 0.022	J202	87-A60-488-010		JACK, DIA6.3 BLK ST W/SW KM16AT
C804	87-010-263-080		CAP, ELECT 100-10V	J203	87-A60-238-010		TERMINAL, SP 4P (MSC)
C807	87-010-400-080		CAP, ELECT 0.47-50V	J602	87-A60-881-010		JACK, PIN 2P MSP 242V05 PBSN
C808	87-010-401-080		CAP, ELECT 1-50V	J831	87-A60-202-010		TERMINAL, ANT 4P MSP-154V-02
C809	87-010-401-080		CAP, ELECT 1-50V	J940	87-A60-633-010		CONN, 2P H 2.5MM JMT<HR>
C810	87-010-196-080		CHIP CAPACITOR, 0.1-25	L101	87-A50-610-010		COIL, 1UH K(MDEC)<HR, LH>
C814	87-010-197-080		CAP, CHIP 0.01 DM	L101	87-003-383-010		COIL, 1UH-S<HA>
C815	87-010-400-080		CAP, ELECT 0.47-50V	L102	87-A50-610-010		COIL, 1UH K(MDEC)<HR, LH>
C816	87-010-400-080		CAP, ELECT 0.47-50V	L102	87-003-383-010		COIL, 1UH-S<HA>
C821	87-010-405-080		CAP, ELECT 10-50V	L451	87-007-342-010		COIL, OSC 85K BIAS
C823	87-010-177-080		C-CAP, S 820P-50 SL	L801	87-A50-540-010		COIL, FM DET(TOK)
C824	87-010-405-080		CAP, ELECT 10-50V	L802	87-A91-552-010		FLTR, CFMT-450AL (TOK)<HR>
C825	87-010-596-080		CAP, S 0.047-16	L802	87-A91-551-010		FLTR, PCFJZH-450 L(TOK)<LH, HA>
C842	87-010-197-080		CAP, CHIP 0.01 DM	L811	87-005-847-080		COIL, 2.2UH(CECS)

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
L832	87-005-847-080		COIL, 2.2UH (CECS)	C908	87-010-322-080		C-CAP, S 100P-50 CH
L941	87-A50-022-010		COIL, ANT SW(COI)<HR>	C909	87-010-322-080		C-CAP, S 100P-50 CH
L942	87-A50-550-010		COIL, OSC SW-2N(COI)<HR>	C910	87-010-322-080		C-CAP, S 100P-50 CH
L943	87-A50-522-080		COIL, 1MH K CEC<HR>	C911	87-010-178-080		CHIP CAP 1000P
L944	87-A50-159-010		COIL, 10MH K C2B<HR>	C912	87-010-196-080		CHIP CAPACITOR, 0.1-25
L951	8A-NF8-667-010		COIL, AM PACK 4(TOK)<LH, HA>	C913	87-010-248-040		CAP, E 220-10 SME
L952	87-A50-430-010		COIL, ANT MW(3BSW)<HR>	C914	87-010-248-040		CAP, E 220-10 SME
L953	87-A50-431-010		COIL, OSC MW(3BSW)<HR>	C915	87-010-196-080		CHIP CAPACITOR, 0.1-25
R131	87-A00-257-080		RES, M/F 0.15-1W J<LH, HA>	C916	87-010-196-080		CHIP CAPACITOR, 0.1-25
R131	87-A00-258-080		RES, M/F 0.22-1W J<HR>	C917	87-010-196-080		CHIP CAPACITOR, 0.1-25
R132	87-A00-257-080		RES, M/F 0.15-1W J<LH, HA>	C919	87-010-197-080		CAP, CHIP 0.01 DM
R132	87-A00-258-080		RES, M/F 0.22-1W J<HR>	C920	87-012-369-080		C-CAP, S 0.047-50F
R143	87-A00-440-050		RES, 220-1/2W J RP	C921	87-010-186-080		CAP, CHIP 4700P
R144	87-A00-440-050		RES, 220-1/2W J RP	C951	87-010-312-080		C-CAP, S 15P-50 CH
R145	87-A00-440-050		RES, 220-1/2W J RP	C952	87-012-155-080		C-CAP 180P-50CH
R146	87-A00-440-050		RES, 220-1/2W J RP	C953	87-012-140-080		CAP 470P
R653	87-A11-144-080		CAP, TC U 0.1-50 K B	C961	87-010-378-040		CAP, E 10-16
R654	87-A11-144-080		CAP, TC U 0.1-50 K B	C962	87-012-157-080		C-CAP, S 330P-50 CH
R790	87-010-197-080		CAP, CHIP 0.01 DM	C963	87-010-196-080		CHIP CAPACITOR, 0.1-25
R991	87-010-322-080		C-CAP, S 100P-50 CH	CN104	87-A60-057-010		CONN, 11P V 9604S-11C
R993	87-010-322-080		C-CAP, S 100P-50 CH	CN701	87-099-720-010		CONN, 30P TYK-B(P)
R995	87-010-322-080		C-CAP, S 100P-50 CH	CN731	87-099-015-010		CONN, 13P 6216V
SFR451	87-A90-432-080		SFR, 30K H NVZ6TLTA	EMI401	87-008-372-080		FILTER, EMI BL OIRNI<HR>
SFR452	87-A90-432-080		SFR, 30K H NVZ6TLTA	FL901	8A-NF9-605-010		FL, HNA-10SS12
TC941	87-011-254-080		TRIMER, 20P LAR<HR>	J401	87-A61-242-010		JACK, 6.3 BLK MONO W/SW V KM<HR>
TC943	87-011-253-080		TRIMER, 30P LAR<HR>	L951	87-A50-434-010		COIL, CLK 4.19M(TOKO)
WH1	87-A90-510-010		HLDR, WIRE 2.5-9P	LED201	87-A40-619-040		LED, SLR-56PT-T31-W GRN
X991	87-A70-061-010		VIB, XTAL 4.500MHZ CSA-309	LED202	87-A40-619-040		LED, SLR-56PT-T31-W GRN
				LED204	87-A40-619-040		LED, SLR-56PT-T31-W GRN
				LED205	87-A40-619-040		LED, SLR-56PT-T31-W GRN
FRONT C.B				LED209	87-A40-317-080		LED, SLR-342VCT31 RED
C101	87-010-196-080		CHIP CAPACITOR, 0.1-25	LED210	87-A40-619-040		LED, SLR-56PT-T31-W GRN
C102	87-010-196-080		CHIP CAPACITOR, 0.1-25	S301	87-A91-024-180		SW, TACT KSHG611BT<HA>
C103	87-010-498-040		CAP, E 10-16 GAS	S301	87-A90-164-080		SW, TACT SKQAB(N)<HR, LH>
C104	87-010-196-080		CHIP CAPACITOR, 0.1-25	S302	87-A91-024-180		SW, TACT KSHG611BT<HA>
C107	87-010-493-040		CAP, E 0.47-50 GAS				
C108	87-012-393-080		C-CAP, S 0.22-16 R K	S302	87-A90-164-080		SW, TACT SKQAB(N)<HR, LH>
C153	87-010-198-080		CAP, CHIP 0.022	S303	87-A91-024-180		SW, TACT KSHG611BT<HA>
C154	87-010-246-040		CAP, E 47-35 SME	S303	87-A90-164-080		SW, TACT SKQAB(N)<HR, LH>
C155	87-010-404-040		CAP, E 4.7-50 SME	S304	87-A91-024-180		SW, TACT KSHG611BT<HA>
C156	87-010-404-040		CAP, E 4.7-50 SME	S304	87-A90-164-080		SW, TACT SKQAB(N)<HR, LH>
C361	87-010-178-080		CHIP CAP 1000P	S305	87-A91-024-180		SW, TACT KSHG611BT<HA>
C362	87-010-178-080		CHIP CAP 1000P	S305	87-A90-164-080		SW, TACT SKQAB(N)<HR, LH>
C371	87-010-178-080		CHIP CAP 1000P	S306	87-A91-024-180		SW, TACT KSHG611BT<HA>
C372	87-010-178-080		CHIP CAP 1000P	S306	87-A90-164-080		SW, TACT SKQAB(N)<HR, LH>
C401	87-010-186-080		CAP, CHIP 4700P<HR>	S307	87-A91-024-180		SW, TACT KSHG611BT<HA>
C402	87-010-112-040		CAP, E 100-16<HR>	S307	87-A90-164-080		SW, TACT SKQAB(N)<HR, LH>
C403	87-010-545-040		CAP, E 0.22-50 SME<HR>	S308	87-A91-024-180		SW, TACT KSHG611BT<HA>
C404	87-010-320-080		CHIP CAP 68P<HR>	S308	87-A90-164-080		SW, TACT SKQAB(N)<HR, LH>
C405	87-010-544-040		CAP, E 0.1-50 SME<HR>	S309	87-A91-024-180		SW, TACT KSHG611BT<HA>
C406	87-010-544-040		CAP, E 0.1-50 SME<HR>	S309	87-A90-164-080		SW, TACT SKQAB(N)<HR, LH>
C407	87-010-405-040		CAP, E 10-50<HR>	S321	87-A91-024-180		SW, TACT KSHG611BT<HA>
C408	87-010-322-080		C-CAP, S 100P-50 CH<HR>	S321	87-A90-164-080		SW, TACT SKQAB(N)<HR, LH>
C409	87-010-265-040		CAP, E 33-16 SME<HR>	S322	87-A91-024-180		SW, TACT KSHG611BT<HA>
C410	87-012-369-080		C-CAP, S 0.047-50F<HR>	S322	87-A90-164-080		SW, TACT SKQAB(N)<HR, LH>
C413	87-010-177-080		C-CAP, S 820P-50 SL<HR>	S323	87-A91-024-180		SW, TACT KSHG611BT<HA>
C601	87-010-382-040		CAP, E 22-25 SME	S323	87-A90-164-080		SW, TACT SKQAB(N)<HR, LH>
C801	87-010-195-080		C-CAP, S 0.068-25 F	S324	87-A91-024-180		SW, TACT KSHG611BT<HA>
C802	87-010-195-080		C-CAP, S 0.068-25 F	S324	87-A90-164-080		SW, TACT SKQAB(N)<HR, LH>
C803	87-010-402-040		CAP, E 2.2-50 SME	S325	87-A91-024-180		SW, TACT KSHG611BT<HA>
C804	87-010-402-040		CAP, E 2.2-50 SME	S325	87-A90-164-080		SW, TACT SKQAB(N)<HR, LH>
C805	87-010-196-080		CHIP CAPACITOR, 0.1-25	S326	87-A91-024-180		SW, TACT KSHG611BT<HA>
C806	87-010-196-080		CHIP CAPACITOR, 0.1-25	S326	87-A90-164-080		SW, TACT SKQAB(N)<HR, LH>
C901	87-010-322-080		C-CAP, S 100P-50 CH	S341	87-A91-024-180		SW, TACT KSHG611BT<HA>
C902	87-010-322-080		C-CAP, S 100P-50 CH	S341	87-A90-164-080		SW, TACT SKQAB(N)<HR, LH>
C903	87-010-322-080		C-CAP, S 100P-50 CH	S342	87-A91-024-180		SW, TACT KSHG611BT<HA>
C904	87-010-322-080		C-CAP, S 100P-50 CH	S342	87-A90-164-080		SW, TACT SKQAB(N)<HR, LH>
C905	87-010-322-080		C-CAP, S 100P-50 CH	S343	87-A91-024-180		SW, TACT KSHG611BT<HA>
C906	87-010-322-080		C-CAP, S 100P-50 CH	S343	87-A90-164-080		SW, TACT SKQAB(N)<HR, LH>
C907	87-010-322-080		C-CAP, S 100P-50 CH	S344	87-A91-024-180		SW, TACT KSHG611BT<HA>
				S344	87-A90-164-080		SW, TACT SKQAB(N)<HR, LH>

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
S345	87-A91-024-180	SW, TACT	KSHG611BT<HA>
S345	87-A90-164-080	SW, TACT	SKQAB(N)<HR, LH>
S346	87-A91-024-180	SW, TACT	KSHG611BT<HA>
S346	87-A90-164-080	SW, TACT	SKQAB(N)<HR, LH>
S347	87-A91-024-180	SW, TACT	KSHG611BT<HA>
S347	87-A90-164-080	SW, TACT	SKQAB(N)<HR, LH>
S348	87-A91-024-180	SW, TACT	KSHG611BT<HA>
S348	87-A90-164-080	SW, TACT	SKQAB(N)<HR, LH>
S349	87-A91-024-180	SW, TACT	KSHG611BT<HA>
S349	87-A90-164-080	SW, TACT	SKQAB(N)<HR, LH>
S350	87-A91-024-180	SW, TACT	KSHG611BT<HA>
S350	87-A90-164-080	SW, TACT	SKQAB(N)<HR, LH>
S361	87-A91-633-010	SW, RTRY	XRE012103PVB25FINA 1-2
S371	87-A91-632-010	SW, RTRY	XRE012103PVB25FINB 1-2
VR401	86-NFA-607-010	VR, RTRY	10K15AX1 1 V XV0121PVN<HR>

PT C.B

C1	87-010-387-080	CAP, E 470-25 SME
C31	87-010-403-080	CAP, ELECT 3.3-50V
CN1	87-A61-110-010	CONN, 9P V TID-A
△ PT1	8A-NF9-613-010	PT, ANF-9 HR<HR>
△ PT1	8A-NF9-615-010	PT, ANF-9 LH<LH, HA>
△ PT2	8A-NF8-673-010	PT, SUB ANF-8 (H)KAMI
△ RY1	87-A91-339-010	RELAY, AC DC12V G5PA-2
△ S1	87-A90-165-010	SW, SL 1-2-3 SWS2301
△ T1	87-A60-317-010	TERMINAL, 1P MSC
△ T2	87-A60-317-010	TERMINAL, 1P MSC

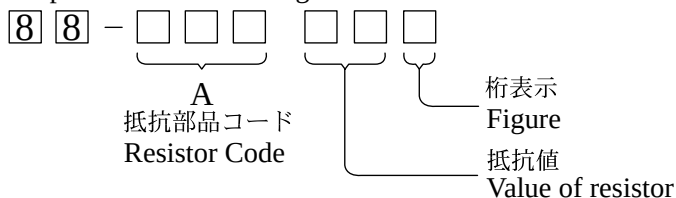
DECK C.B

CN1	87-099-753-010	CONN, 11P H 9604
HL1	8Z-ZM3-214-010	HLDR, IC
SFR1	87-024-581-010	SFR, 3.3K DIA6V K0A
SW1	87-A90-673-010	SW, MICRO ESE11SH1C
SW2	87-A91-500-010	SW, MICRO MPU11470MLB0
SW3	87-A91-500-010	SW, MICRO MPU11470MLB0
SW4	87-A91-500-010	SW, MICRO MPU11470MLB0
SW5	87-A90-673-010	SW, MICRO ESE11SH1C

○チップ抵抗部品コード／CHIP RESISTOR PART CODE

チップ抵抗部品コードの成り立ち

Chip Resistor Part Coding



チップ抵抗 Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm)				抵抗コード : A Resistor Code : A
				外形／Form	L	W	t	
1/16W	1005	± 5%	CJ		1.0	0.5	0.35	104
1/16W	1608	± 5%	CJ		1.6	0.8	0.45	108
1/10W	2125	± 5%	CJ		2	1.25	0.45	118
1/8W	3216	± 5%	CJ		3.2	1.6	0.55	128

TRANSISTOR ILLUSTRATION



E C B

CD1585BC
CSA952K
CSC4115BC
KTA1266GR
KTC3198GR



E C B

2SC3331



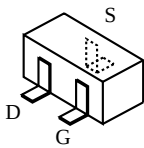
E C B

DTC114ES
KTC3199GR

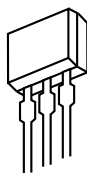


B C E

2SB1370

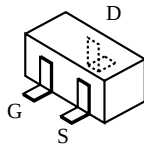


2SK360E

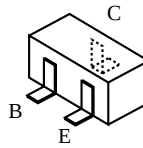


S D G

2SJ460
2SK2541



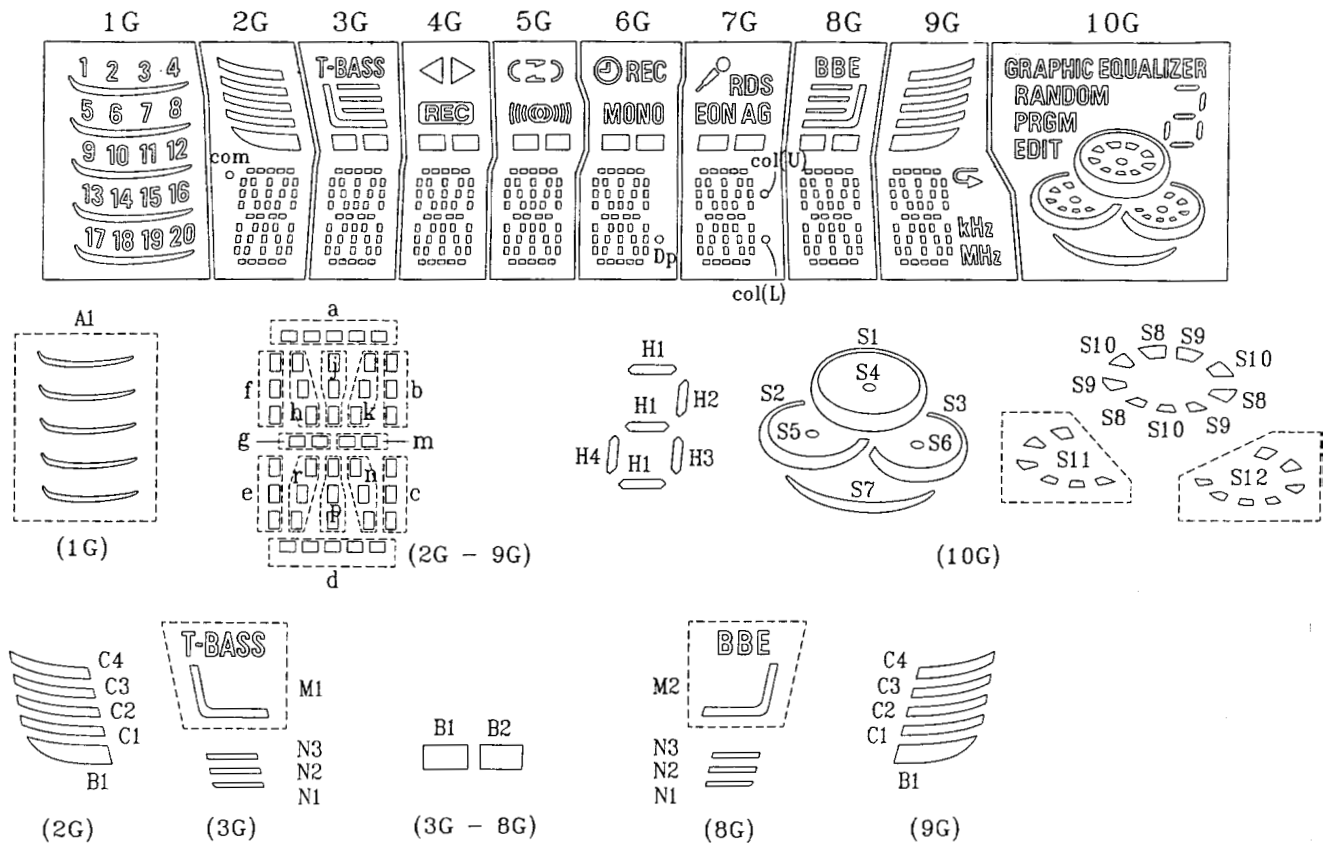
2SK2158



2SA1235F	KRC102S
2SC2714	KRC104S
2SC3052F	RT1N141C
CMBT5401	RT1N441C
CMBT5551	RT1P141C
CSD1306E	RT1P144C

FL (HNA-10SS12) GRID ASSIGNMENT AND ANODE CONNECTION

GRID ASSIGNMENT

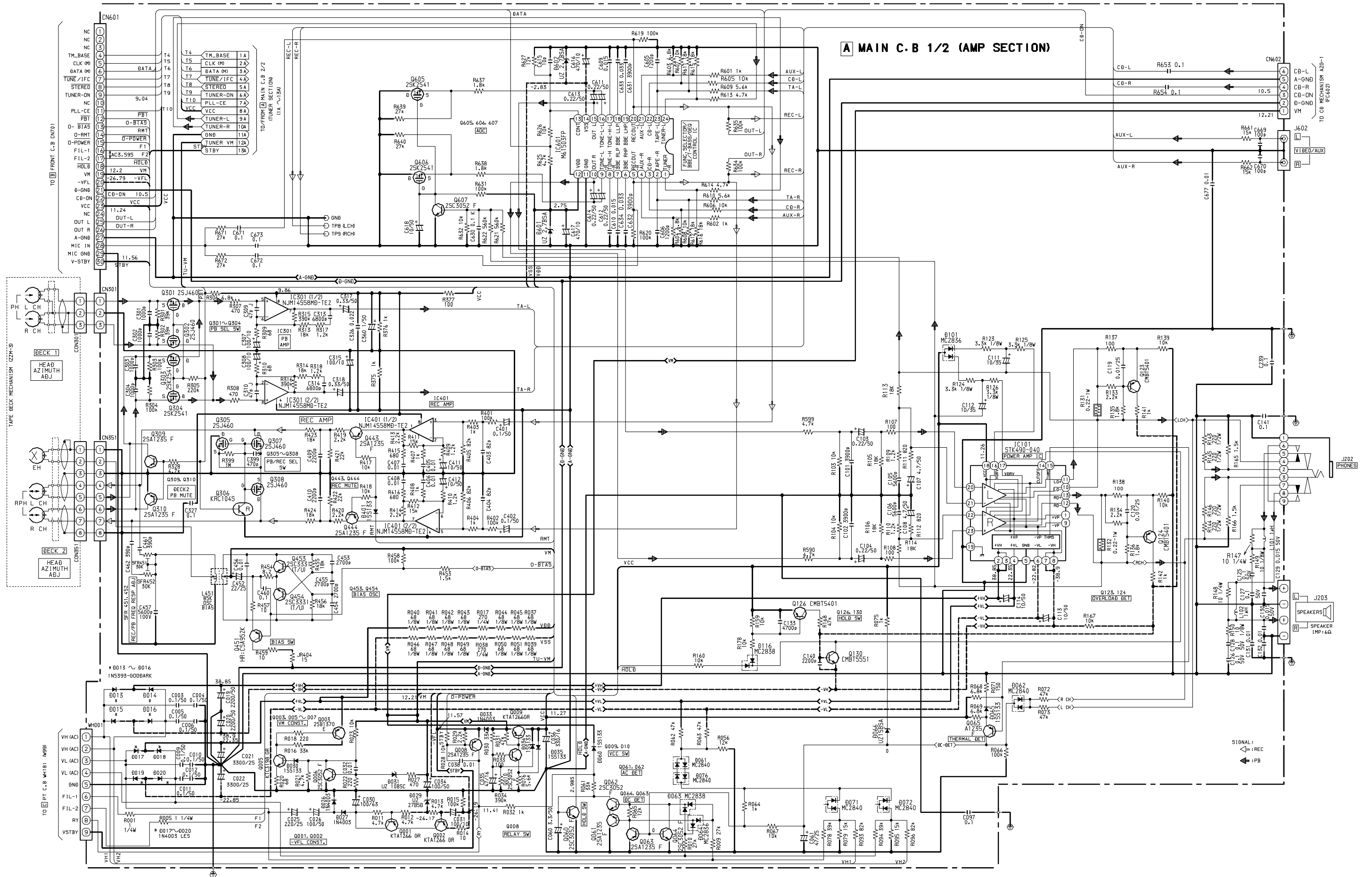


ANODE CONNECTION

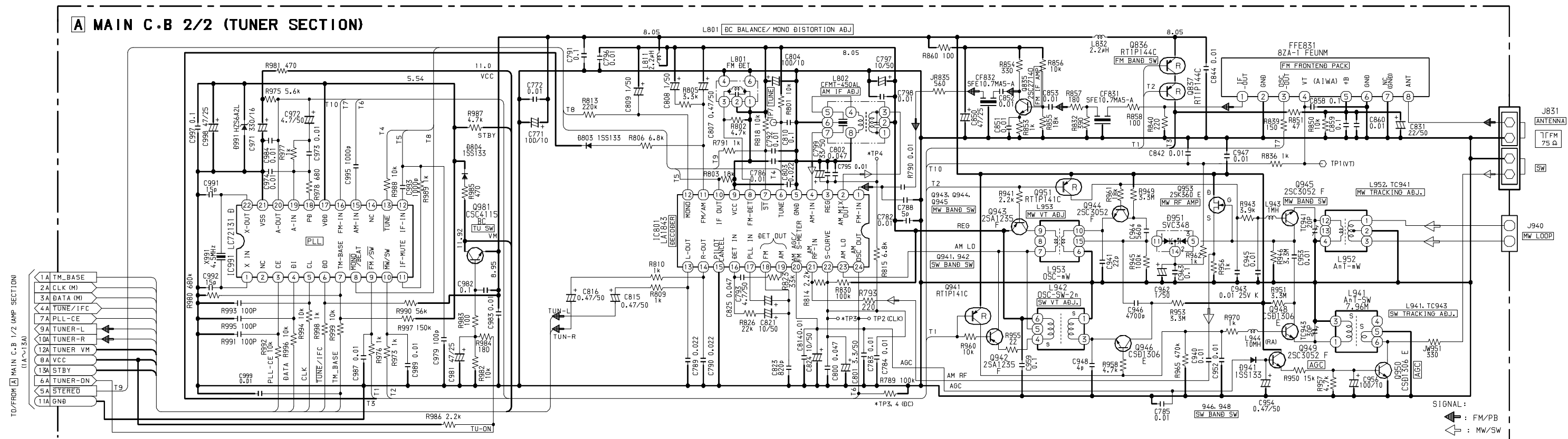
	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G
P1	20	d	d	d	d	d	d	d	d	S1
P2	19	n	n	n	n	n	n	n	n	S2
P3	18	p	p	p	p	p	p	p	p	S3
P4	17	r	r	r	r	r	r	r	r	S4
P5	16	e	e	e	e	e	e	e	e	S5
P6	15	c	c	c	c	c	c	c	c	S6
P7	14	g	g	g	g	g	g	g	g	S7
P8	13	m	m	m	m	m	m	m	m	S8
P9	12	f	f	f	f	f	f	f	f	S9
P10	11	b	b	b	b	b	b	b	b	S10
P11	10	k	k	k	k	k	k	k	k	S11
P12	9	j	j	j	j	j	j	j	j	S12
P13	8	h	h	h	h	h	h	h	h	EDIT
P14	7	a	a	a	a	a	a	a	a	PRGM
P15	6	B1	B1	B1	B1	B1	B1	B1	B1	RANDOM
P16	5	C1	B2	B2	B2	B2	B2	B2	C1	GRAPHIC EQUALIZER
P17	4	C2	M1	REC	MONO	Dp	col(U)	M2	C2	H1
P18	3	C3	N1	<	C	MONO	col(L)	N1	C3	H2
P19	2	C4	N2	>	Z	REC	EON	N2	C4	H3
P20	1	com	N3		)	AG		N3		H4
P21	A1						RDS			
P22										



SCHEMATIC DIAGRAM – 1 (MAIN 1 / 2 : AMP <HR>)

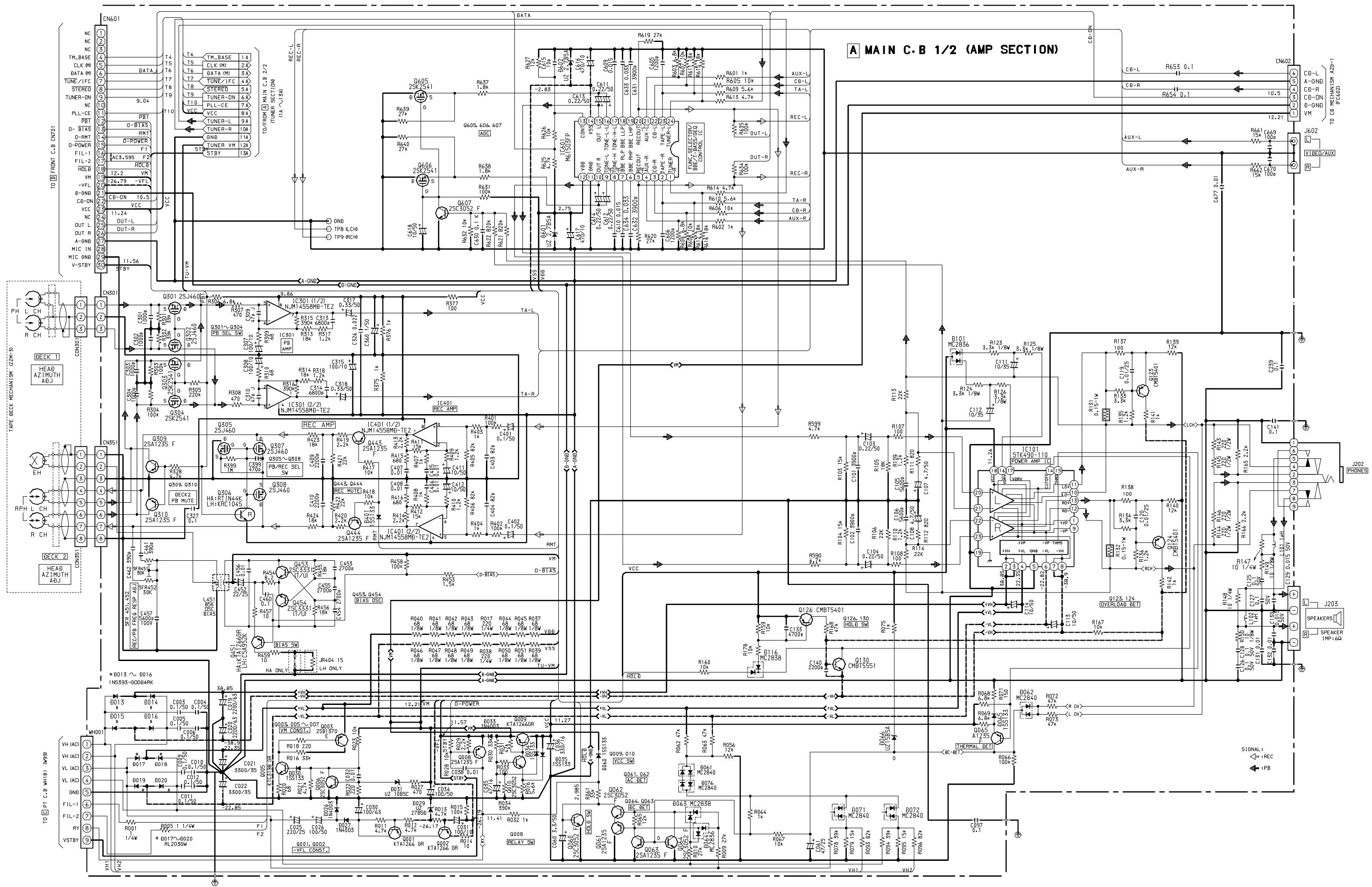


SCHEMATIC DIAGRAM – 2 (MAIN 2 / 2 : TUNER <HR>)

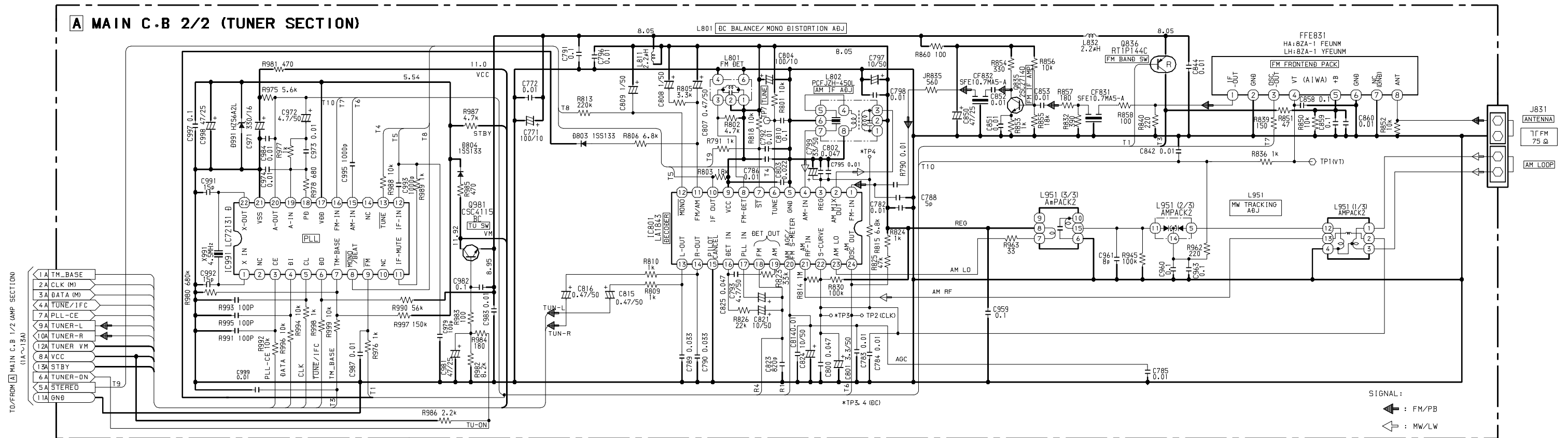




SCHEMATIC DIAGRAM – 3 (MAIN 1 / 2 : AMP <LH,HA>)

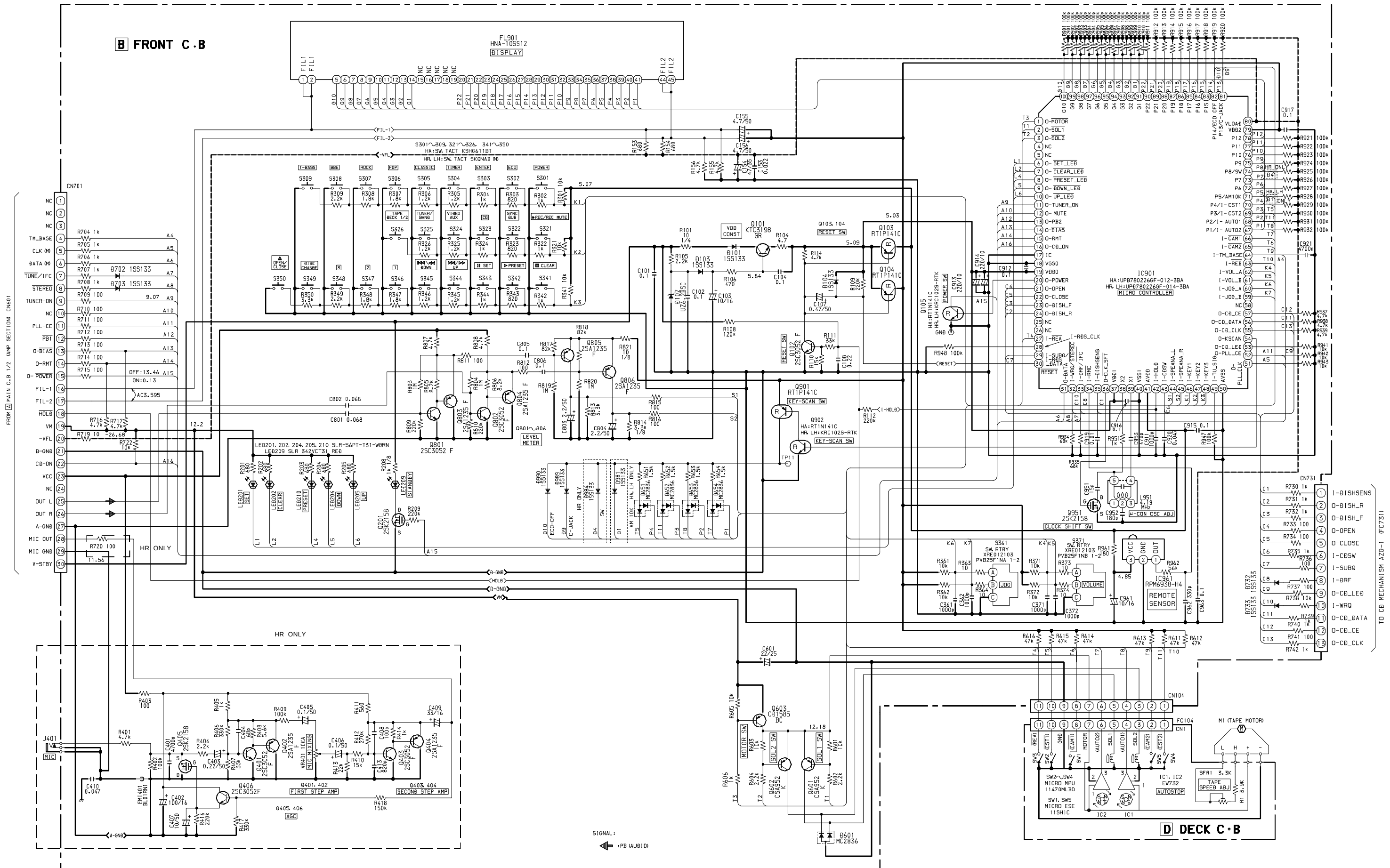


SCHEMATIC DIAGRAM – 4 (MAIN 2 / 2 : TUNER <LH,HA>)

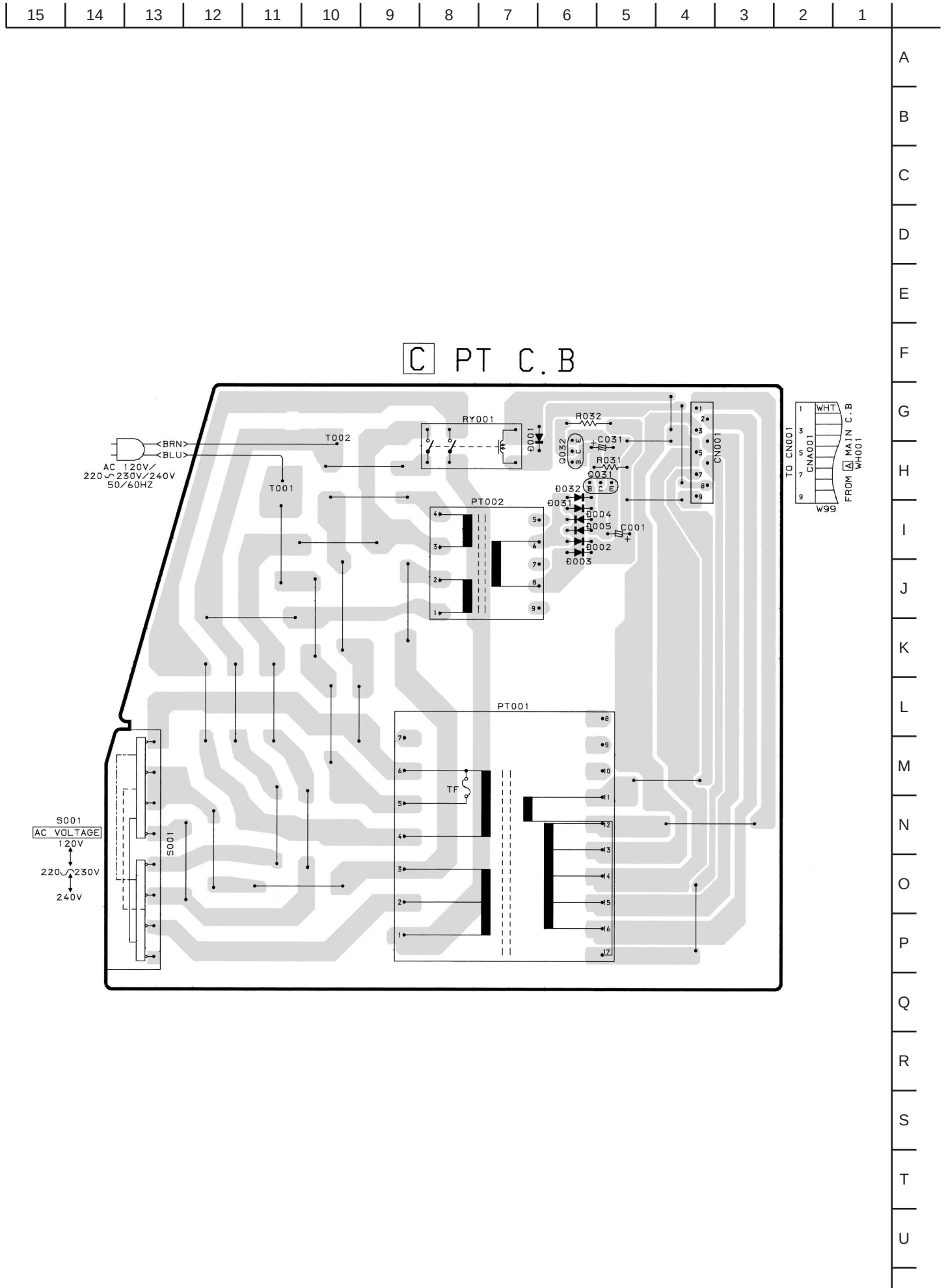




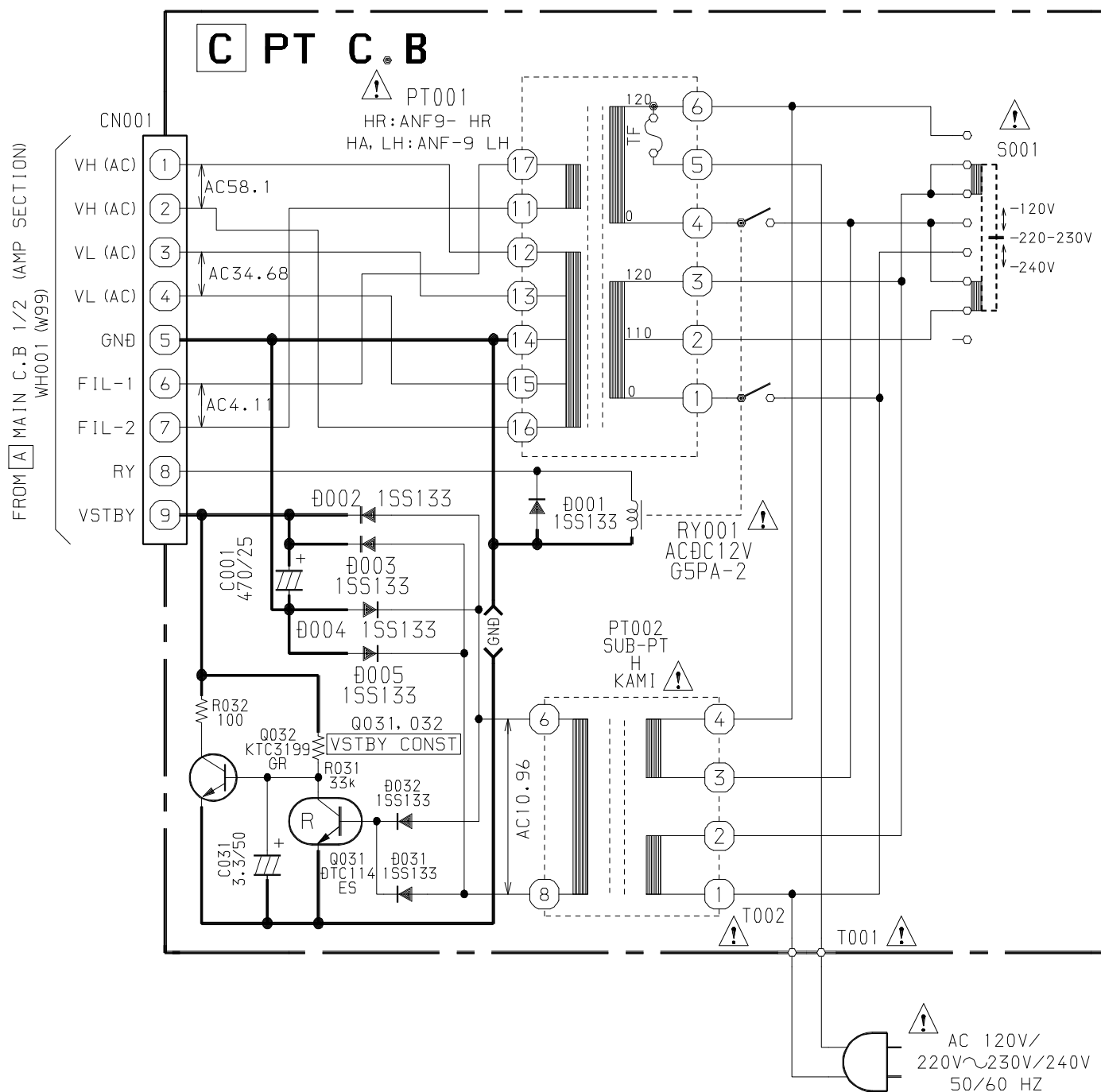
SCHEMATIC DIAGRAM – 5 (FRONT)

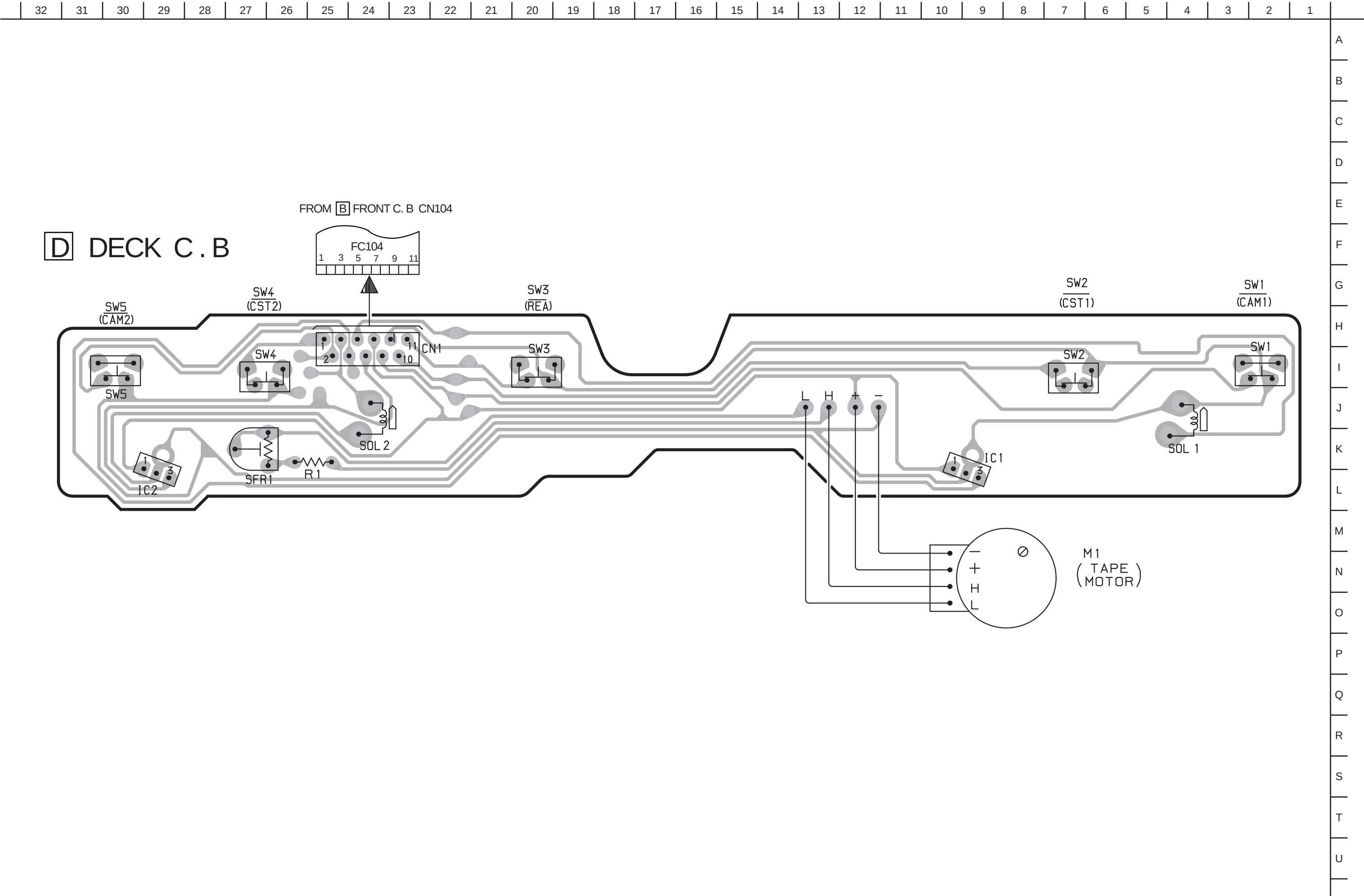


WIRING – 4 (PT)

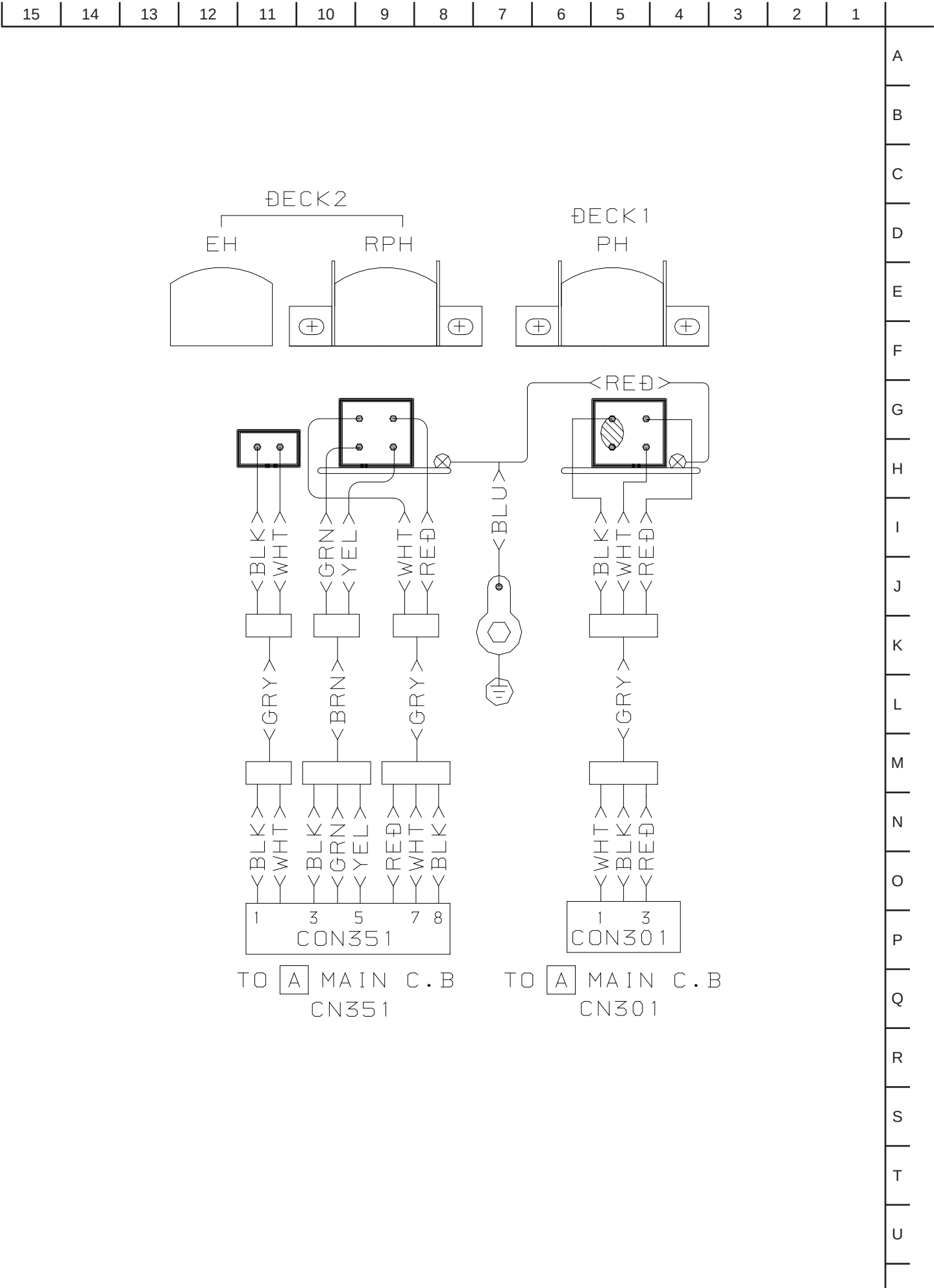


SCHEMATIC DIAGRAM – 6 (PT)



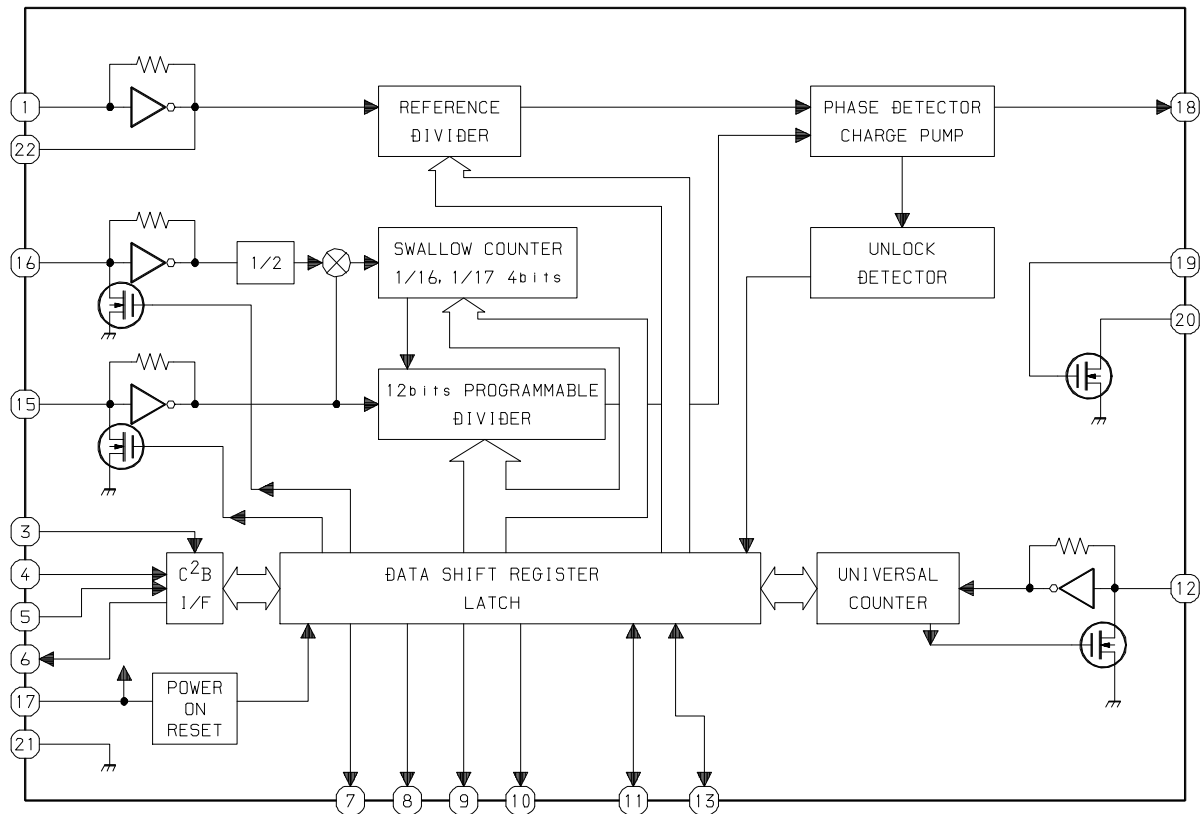


WIRING – 6 (HEAD)

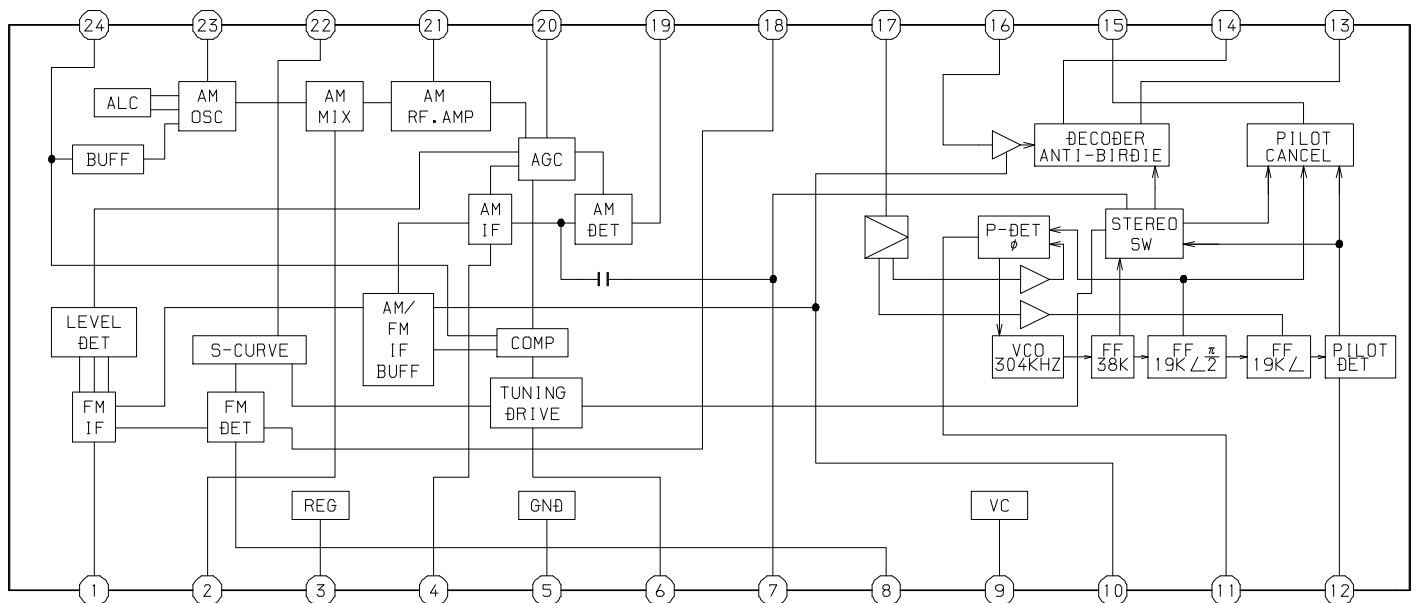


IC BLOCK DIAGRAM

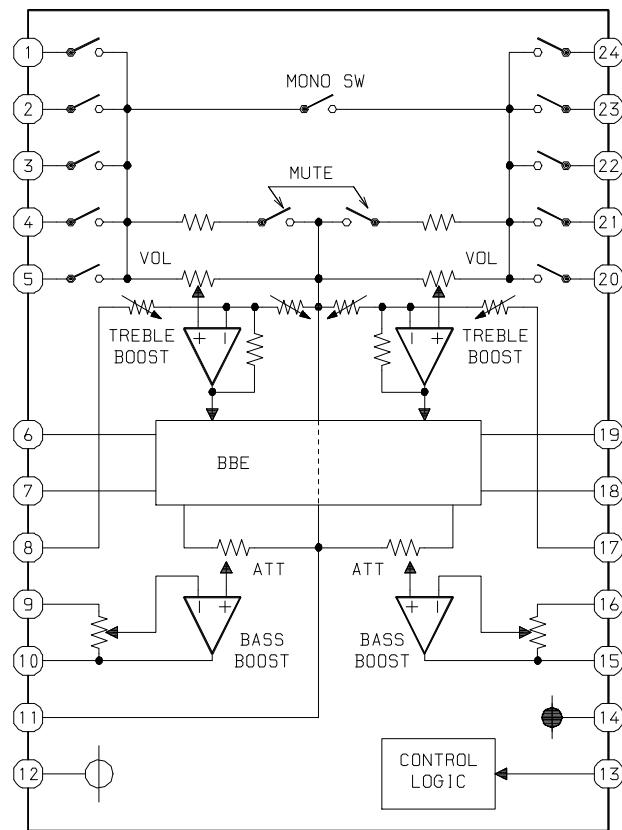
IC, LC72131D



IC, LA1843



IC, M61503FP



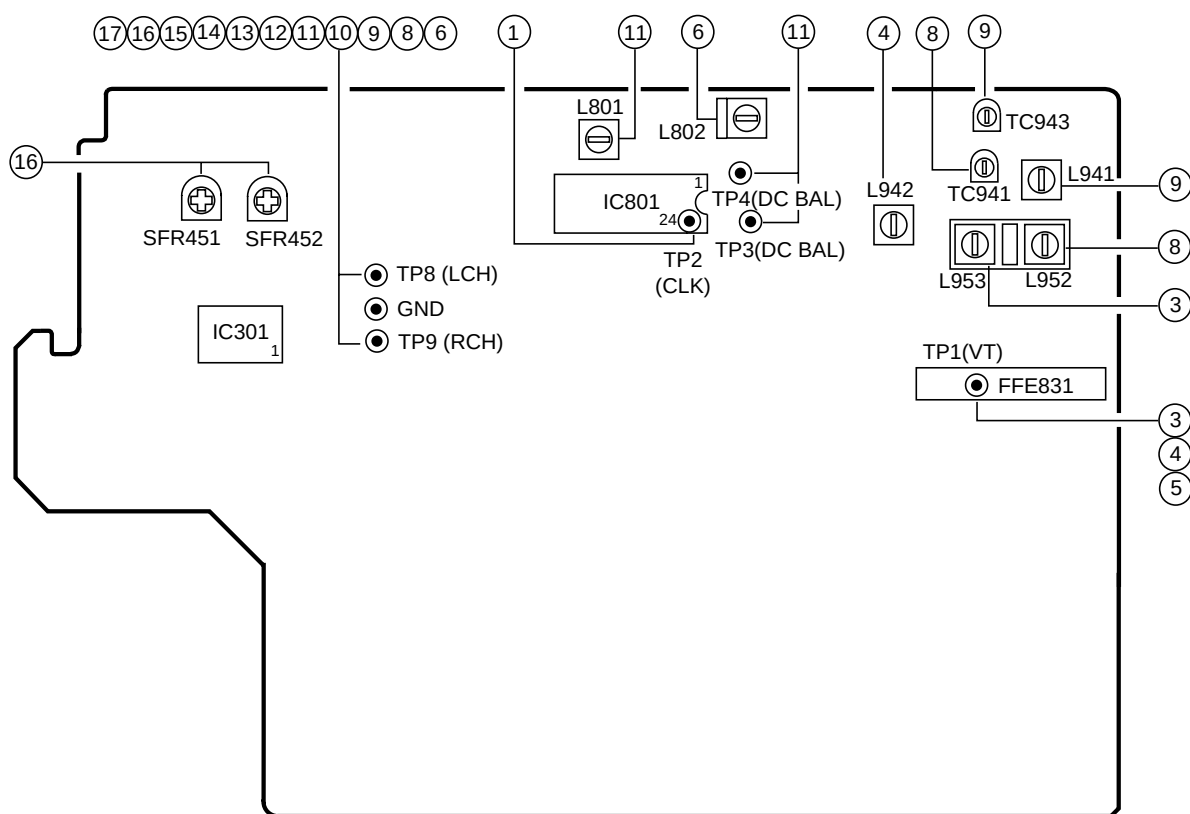
IC DESCRIPTION

IC, μ PD780226GF-012-3BA / 014-3BA

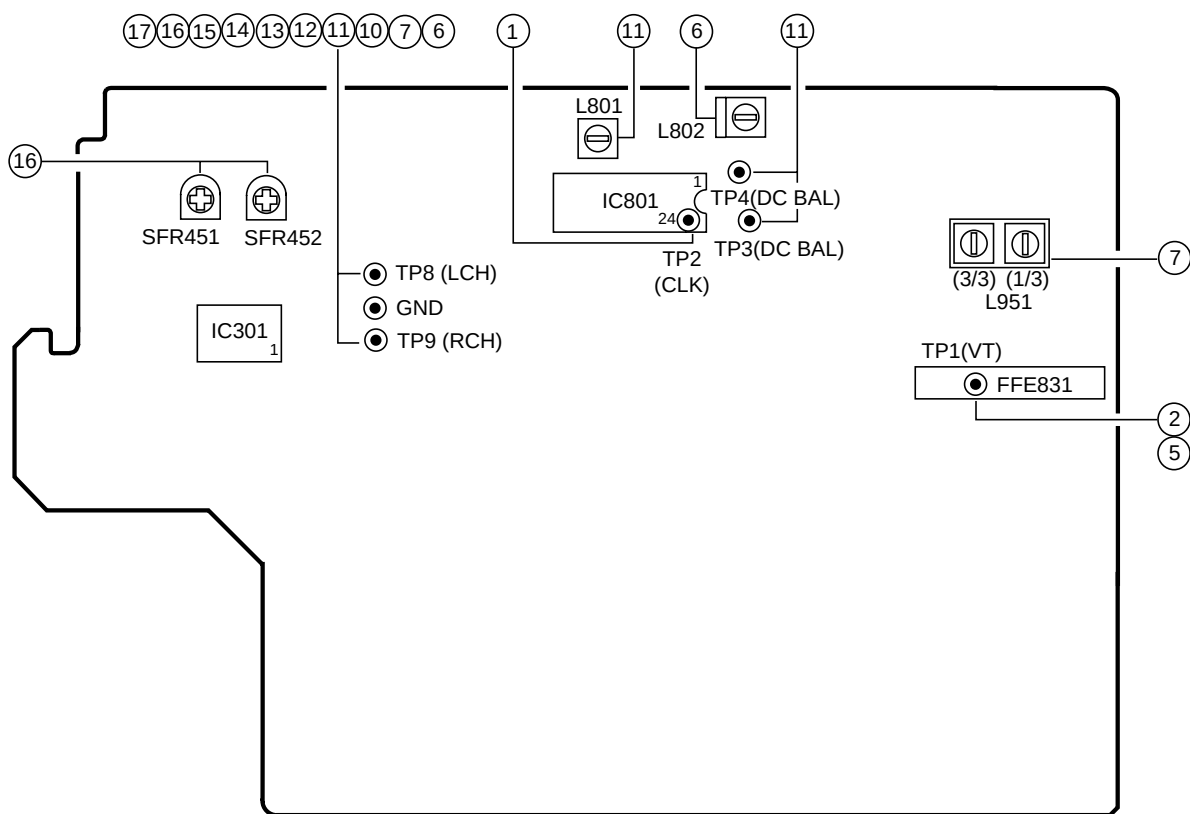
Pin No.	Pin Name	I/O	Description
1	O-MOTOR	O	DECK MOTOR ON/OFF output.
2	O-SOL1	O	DECK1 solenoid output.
3	O-SOL2	O	DECK2 solenoid output.
4	NC	–	Not connected.
5	NC	–	Not connected.
6	O-SET_LED	O	SET LED ON/OFF output.
7	O-CLEAR_LED	O	CLEAR LED ON/OFF output.
8	O-PRESET_LED	O	PRESET LED ON/OFF output.
9	O-DOWN_LED	O	DOWN LED ON/OFF output.
10	O-UP_LED	O	UP LED ON/OFF output.
11	O-TUNER_ON	O	TUNER ON output.
12	O-MUTE	O	MUTE output.
13	O-PB2	O	DECK2/DECK1 play output.
14	O-BIAS	O	BIAS ON output.
15	O-RMT	O	REC mute output.
16	O-CD_ON	O	CD ON output.
17	IC	–	Internal connection (connected to GND).
18	VSSO	–	GND.
19	VDDO	–	Power supply.
20	O-POWER	O	System power supply ON/OFF output.
21	O-OPEN	O	CD tray open data output.
22	O-CLOSE	O	CD tray close data output.
23	O-DISH_F	O	CD turntable forward rotation output.
24	O-DISH_R	O	CD turntable reverse rotation output.
25	NC	–	Not connected.
26	NC	–	Not connected.
27	I-REA	I	Volume jog AD input.
28	I-RDS_CLK	I	Connected to GND through Resistor.
29	I-SUBQ/I-RDS_DATA	I	CD SUBQ data input / Tuner RDS data input (not used).
30	RESET	–	System reset.
31	O-DATA	O	Data output for MAIN.
32	I-WRQ/STEREO	I	CD WRQ input / Tuner stereo input.
33	I-DRF/IFC	I	CD DRF input / Tune IF count serial data input.
34	I-RMC	I	System remote control input.
35	I-DISHSENS	I	CD turntable photo sensor input.
36	O-CLK_SFT	O	Micon clock shift output.
37	VDD1	–	Power supply.
38	X2	–	4.19MHz oscillator circuit.
39	X1	–	4.19MHz oscillator circuit.
40	VSS1	–	GND.
41	AVDD	–	Power supply.
42	I-HOLD	I	Power failure detected input.
43	I-CDSW	I	CD mecha switch input.

Pin No.	Pin Name	I/O	Description
44	I-SPEANA_L	I	A/D L-input for spectrum analyser level display.
45	I-SPEANA_R	I	A/D R-input for spectrum analyser level display.
46	I-KEY1	I	Key1 input.
47	I-KEY2	I	Key2 input.
48	I-KEY3	I	Key3 input.
49	I-TU_SIG	I	Tuner signal input.
50	AVSS	–	GND.
51	O-PLL_CLK	O	PLL clock enable output.
52	O-PLL_CE	O	Chip enable output for tuner PLL.
53	O-CD_LED	O	CD flash window LED ON/OFF output.
54	O-KSCAN	O	Key scan output.
55	O-CD_CLK	O	CD clock output.
56	O-CD_DATA	O	CD data output.
57	O-CD_CE	O	CD enable output.
58	NC	–	Not connected.
59	I-JOG_B	I	Dial jog rotary encoder input B.
60	I-JOG_A	I	Dial jog rotary encoder input A.
61	I-VOL_B	I	Volume rotary encoder input B.
62	I-VOL_A	I	Volume rotary encoder input A.
63	I-REB	I	Deck 2 side B recordable SW. "L" : REC
64	I-TM_BASE	I	Base input for clock.
65	I-CAM2	I	DECK2 CAM switch data input.
66	I-CAM1	I	DECK1 CAM STOP switch data input.
67	P1/I-AUTO2	O/I	FL segment P1 output / DECK2 AUTO STOP switch data input.
68	P2/I-AUTO1	O/I	FL segment P2 output / DECK1 AUTO STOP switch data input.
69	P3/I-CST2	O/I	FL segment P3 output / DECK2 cassette detect switch data input.
70	P4/I-CST1	O/I	FL segment P4 output / DECK1 cassette detect switch data input.
71	P5/AM10K	O	FL segment P5 output / AM10K data input <HA,LH>.
72, 73	P6,P7	O	FL segment P6, P7 output.
74	P8/SW	O	FL segment P8 output / SW mode data input <HR>.
75, 76	P9, P10	O	FL segment P9, P10 output.
77, 78	P11, P12	O	FL segment P11, P12 output.
79	VDD2	–	Power supply.
80	VLOAD	–	Power supply for FL display.
81	P13/C-JACK	O/I	FL segment P13 output / C-JACK data input.
82	P14/ECO-OFF	O/I	FL segment P14 output / ECO-OFF data input.
83 ~ 90	P15 ~ P22	O	FL segment P15 ~ P22 output.
91 ~100	G1 ~ G10	O	FL grid G1 ~ G10 output.

A MAIN C.B <HR>



A MAIN C.B <LH,HA>



< TUNER SECTION >

1. Clock frequency Check

Settings : • Test point : TP2 (CLK)

Method : <HR,HA>

Set to MW 1602kHz and check that the test point is 2052kHz $\pm$ 45Hz.

<LH>

Set to MW 1710kHz and check that the test point is 2160kHz $\pm$ 45Hz.

2. MW VT Check <LH,HA>

Settings : • Test point : TP1 (VT)

Method : Set to MW 1710kHz, 530kHz and check that the test point is less than 8.5V (1710kHz) and more than 0.6V (530kHz).

3. MW VT Adjustment <HR>

Settings : • Test point : TP1 (VT)

• Adjustment location : L953

Method : Set to MW 1710kHz and adjust L953 so that the test point becomes 8.5V $\pm$ 0.05V. Then check that the test point is more than 0.3V (530kHz).

4. SW VT Adjustment <HR>

Settings : • Test point : TP1 (VT)

• Adjustment location : L942

Method : Set to SW 17.9MHz and adjust L942 so that the test point becomes 8.0V $\pm$ 0.05V. Then check that the test point is more than 0.3V (5.9MHz).

5. FM VT Check

Settings : • Test point : TP1 (VT)

Method : Set to FM 87.5MHz, 108.0MHz and check that the test point is more than 0.5V (87.5MHz) and less than 8.0V (108.0MHz).

6. AM IF Adjustment

Settings : • Test point : TP8(Lch), TP9(Rch)

• Adjustment location :

L802 450kHz

Method : The output level at 999/1000kHz is adjusted to maximum by L802.

7. MW Tracking Adjustment <LH,HA>

Settings : • Test point : TP8(Lch), TP9(Rch)

• Adjustment location :

L951(1/3) 1000kHz

Method : Set to MW 1000kHz and adjust L951(1/3) to MAX.

8. MW Tracking Adjustment <HR>

Settings : • Test point : TP8(Lch), TP9(Rch)

• Adjustment location :

L952 603kHz

TC941 1404kHz

Method : Set up TC941 to center before adjustment. The output level at 603kHz is adjusted to maximum by L952. Then the output level at 1404kHz is adjusted to maximum by TC941.

9. SW Tracking Adjustment <HR>

Settings : • Test point : TP8(Lch), TP9(Rch)

• Adjustment location :

L941 5.9MHz

TC943 17.9MHz

Method : Set up TC943 to center before adjustment. The output level at 5.9MHz is adjusted to maximum by L941. Then the output level at 17.9 MHz is adjusted to maximum by TC943.

10. FM Tracking Check

Settings : • Test point : TP8(Lch), TP9(Rch)

Method : Set to FM 98.0MHz and check that the test point is less than 9dB μ V.

11. DC Balance / Mono Distortion Adjustment

Settings : • Test point : TP3, TP4 (DC Balance)

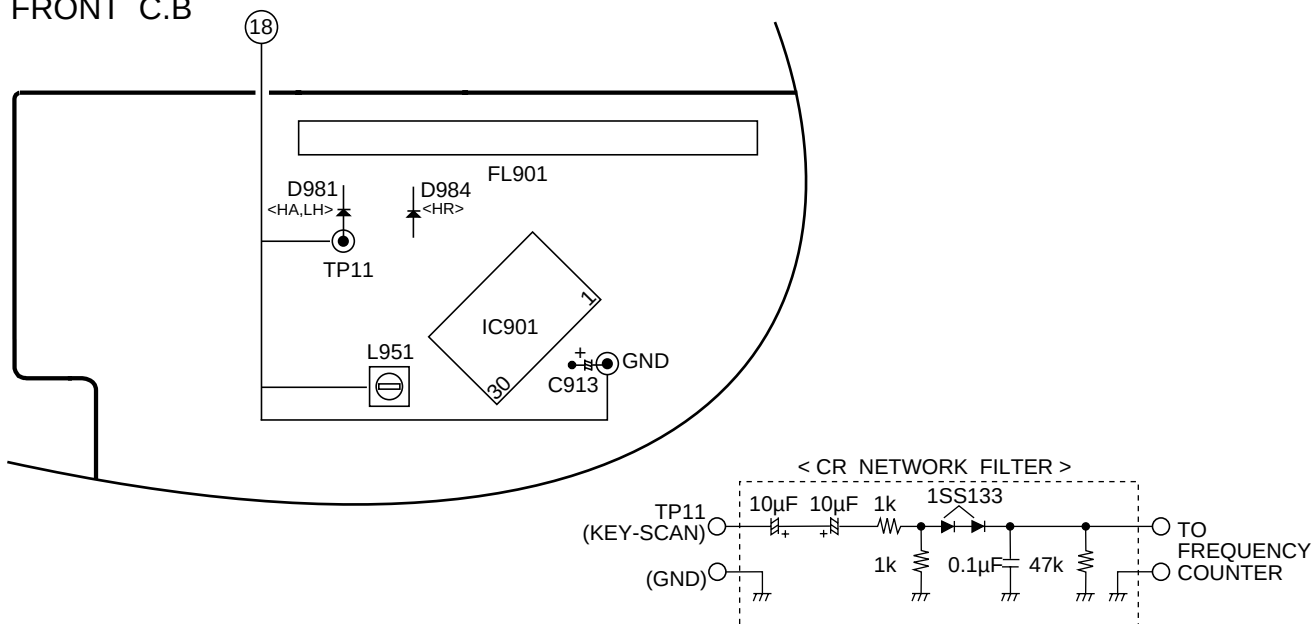
TP8(Lch), TP9(Rch) (Distortion)

• Adjustment location : L801

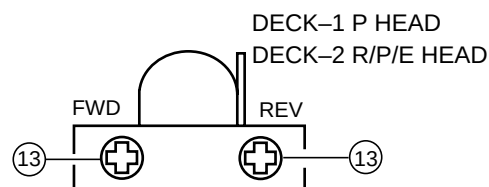
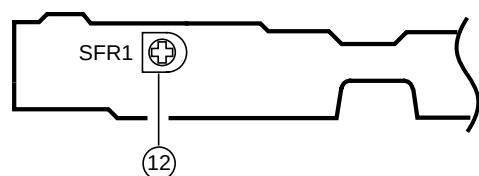
• Input level : 60dB μ V

Method : Set to FM 98.0MHz and adjust L801 so that the voltage between TP3 and TP4 becomes 0V $\pm$ 300mV. Next, adjust DC Balance coil to achieve minimum distortion.

B FRONT C.B



D DECK C.B



< DECK SECTION >

12. Tape Speed Adjustment (DECK 2)

Settings : • Test tape : TTA-100

- Test point : TP8(Lch), TP9(Rch)
- Adjustment location : SFR1

Method : Play back the test tape and adjust SFR1 so that the frequency counter reads $3000\text{Hz} \pm 5\text{Hz}$ (FWD) and $\text{FWD SPEED} \pm 45\text{Hz}$ (REV).

13. Head Azimuth Adjustment (DECK 1, DECK 2)

Settings : • Test tape : TTA-330

- Test point : TP8(Lch), TP9(Rch)
- Adjustment location : Azimuth adjustment screw

Method : Play back (FWD) the 8kHz signal of the test tape and adjust screw so that the output becomes maximum. Next, perform on REV PLAY mode.

14. PB Frequency Response Check (DECK 1, DECK 2)

Settings : • Test tape : TTA-330

- Test point : TP8(Lch), TP9(Rch)

Method : Play back the 315Hz and 8kHz signals of the test tape and check that the output ratio of the 8kHz signal with respect to that of the 315Hz signal is within 5.0dB.

15. PB Sensitivity Check (DECK 1, DECK 2)

Settings : • Test tape : TTA-200

- Test point : TP8(Lch), TP9(Rch)

Method : Play back the test tape and check that the output level of the test point is $110\text{mV} \pm 3.0\text{dB}$.

16. REC/PB Frequency Response Adjustment (DECK 2)

Settings : • Test tape : TTA-602

- Test point : TP8(Lch), TP9(Rch)
- Input signal : 1kHz / 8kHz (LINE IN)
- Adjustment location : SFR451 (Lch)
SFR452 (Rch)

Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at the TP8, TP9 becomes -20VU (-26dBV). Record and play back the 1kHz and 8kHz signals and adjust SFRs so that the output of the 8kHz signals becomes $0\text{dB} \pm 0.5\text{dB}$ with respect to that of the 1kHz signal.

17. REC/PB Sensitivity Check (DECK 2)

Settings : • Test tape : TTA-602

- Test point : TP8(Lch), TP9(Rch)
- Input signal : 1kHz (LINE IN)

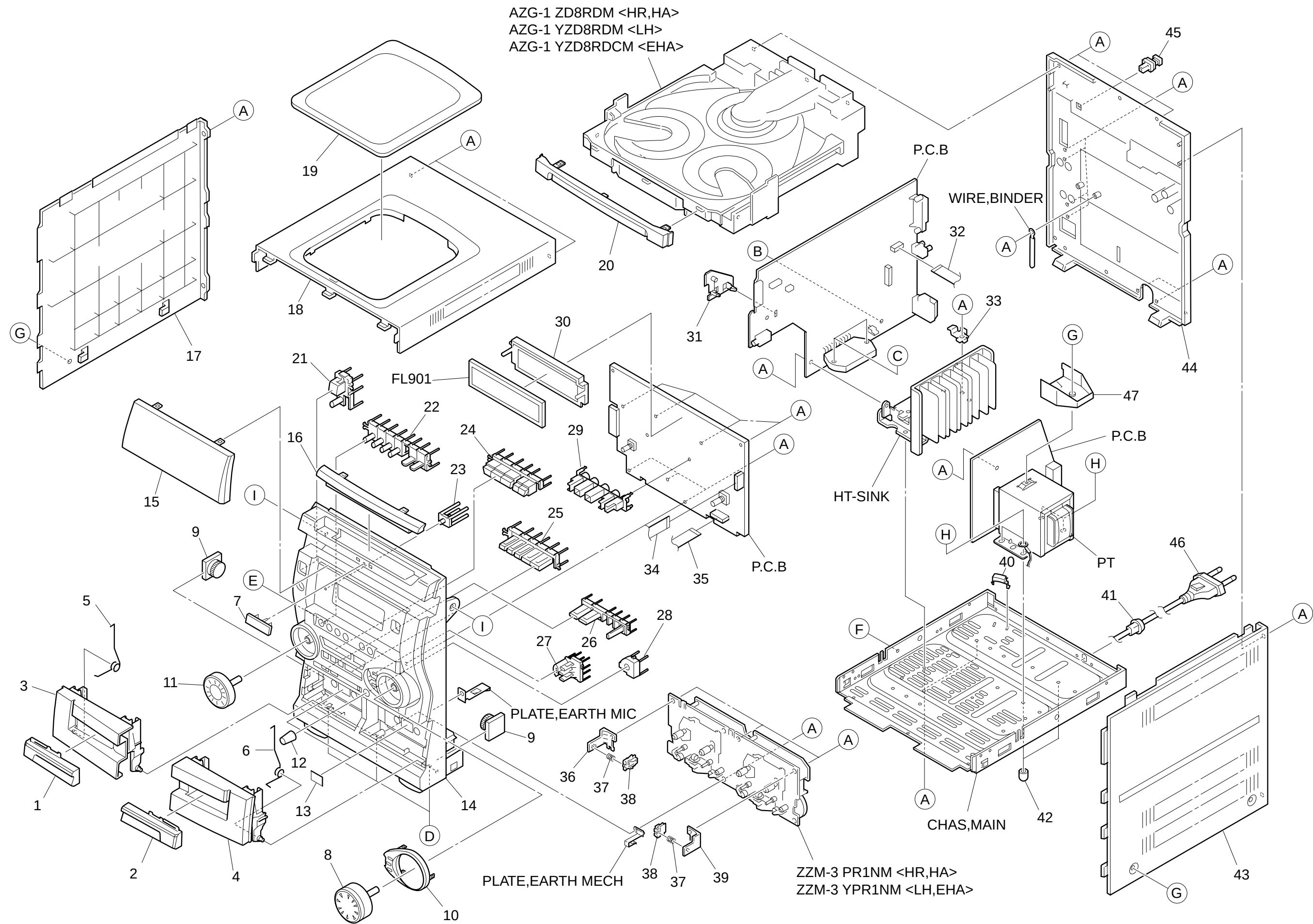
Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at TP8, TP9 becomes 0VU (-6dBV). Record and play back the 1kHz signals and check that the output is $-1\text{dB} \pm 3.5\text{dB}$.

< FRONT SECTION >

18. μ -con OSC Adjustment

- Settings : • Test point : TP11, (KEY-SCAN), GND
- Adjustment location : L951

Method : Connect a frequency counter across TP11 and GND via a CR network filter. Then adjust L951 so that the test point becomes $184.94\text{Hz} \pm 0.18\text{Hz}$.

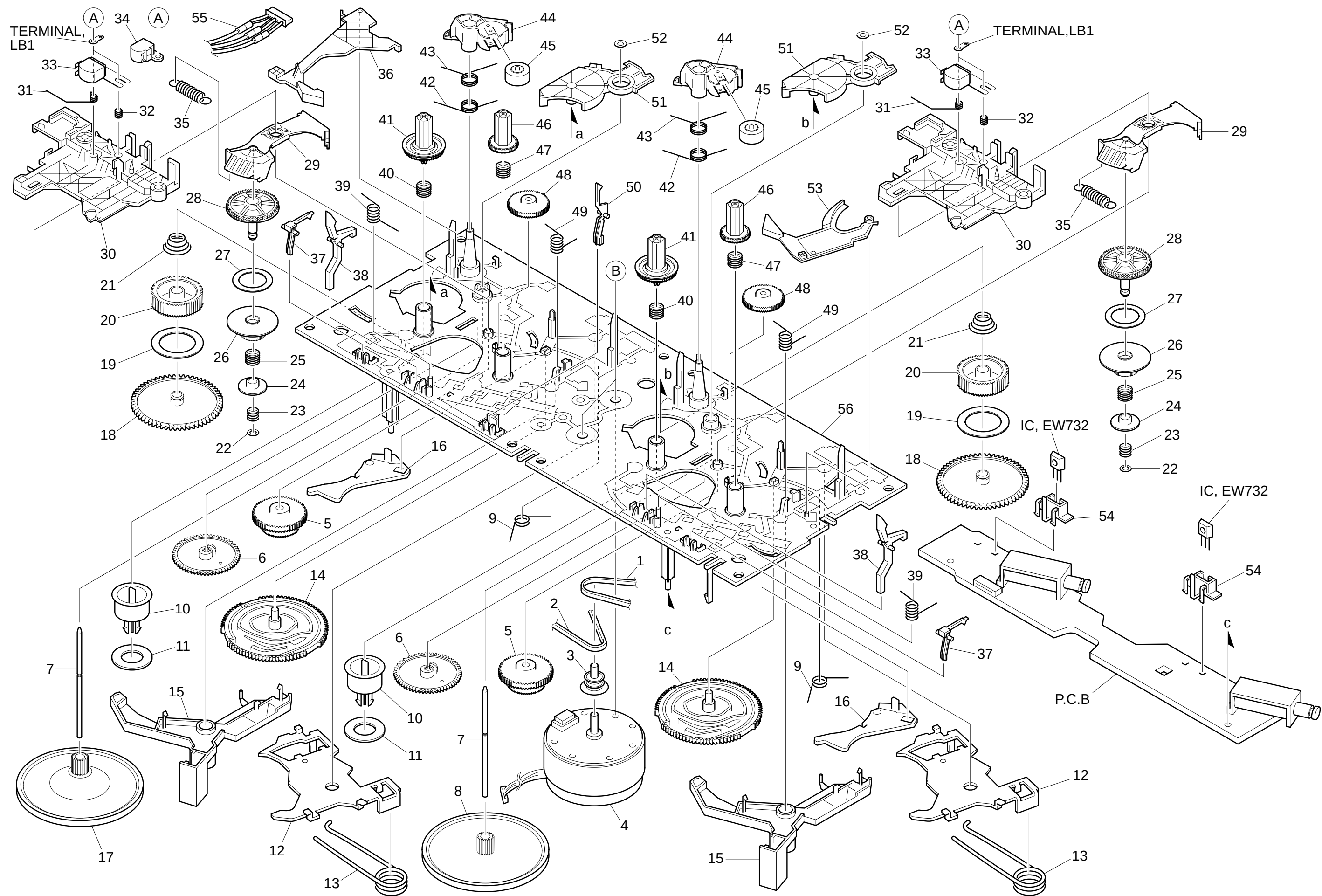


MECHANICAL PARTS LIST 1 / 1

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8A-NF9-006-010		WINDOW, CASS 1	36	87-NF4-216-010		HLDR, LOCK 1
2	8A-NF9-007-010		WINDOW, CASS 2	37	86-NF9-224-010		SPR-C, LOCK
3	8A-NF9-003-010		BOX, CASS 1	38	82-NF5-229-010		PLATE, LOCK
4	8A-NF9-004-010		BOX, CASS 2	39	87-NF4-217-110		HLDR, LOCK 2
5	8A-NF8-207-010		SPR-T, EJECT 1	40	87-NF4-221-010		HLDR, CABLE<EXCEPT HR>
6	8A-NF8-208-010		SPR-T, EJECT 2	41	87-085-185-010		BUSHING, AC CORD (E)<EXCEPT LH>
7	87-CE3-023-010		BADGE, AIWA 30N SILV	41	87-A91-422-010		BUSHING, AC CORD(U)<LH>
8	8A-NF9-018-010		KNOB, RTRY JOG	42	8Z-NB8-240-010		COVER, PL
9	8A-NF8-209-010		OIL-DMPR, 120	43	8A-NF8-008-010		PANEL, RIGHT V-2
10	8A-NF9-017-010		PANEL, JOG	44	8A-NF9-056-010		CABI, REAR LHSFD<EHA>
11	8A-NF9-016-010		KNOB, RTRY VOL	44	8A-NF9-060-110		CABI, REAR LH W/O SPEC<HA>
13	81-532-080-010		LABEL, CASS. COMPT	44	8A-NF9-028-010		CABI, REAR LHSM<HR>
14	8A-NF9-001-010		CABI, FR U	44	8A-NF9-057-010		CABI, REAR USFD<LH>
15	8A-NF9-052-010		WINDOW, DISP LH<HA, HR>	45	84-ZG1-245-210		CAP, OPTICAL
15	8A-NF9-005-010		WINDOW, DISP U<LH>	△ 46	87-A80-092-010		AC CORD ASSY, E BLK SUNFAI<EXCEPT LH>
16	8A-NF9-039-010		WINDOW, CD	△ 46	87-A80-110-010		AC CORD ASSY, U SPT-2W<LH>
17	8A-NF8-007-010		PANEL, LEFT V-2	47	8A-NF9-211-010		HLDR, PWB PT HI
18	8A-NF8-005-010		PANEL, TOP	A	87-067-703-010		TAPPING SCREW, BVT2+3-10
19	8A-NF8-006-010		WINDOW, TOP	B	87-NF4-224-010		S-SCREW, IT3B+3-8 CU
20	8A-NF9-014-010		PANEL, TRAY	C	87-067-581-010		TAPPING SCREW, BVT2+3-15
21	8A-NF9-008-010		KEY, POWER	D	87-067-689-010		TAPPING SCREW, BVTT+3-8
22	8A-NF9-009-010		KEY, FUN	E	87-723-096-410		QT2+3-10W/O SLOT BL
23	8A-NF9-022-010		REFLECTOR, ECO	F	87-721-096-410		QT2+3-10 GLD
24	8A-NF9-010-110		KEY, ASSY OPE 1 WAY	G	87-067-641-010		UTT2+3-8(W/O SLOT)BL
25	8A-NF9-020-010		KEY, CD	H	87-078-191-010		S-SCREW, IT+4-10
26	8A-NF9-019-010		KEY, SYNC	I	87-721-097-410		QT2+3-12 GLD
27	8A-NF9-026-110		KEY, ENTER				
28	8A-NF9-021-010		PLATE, MIC<HR>				
29	8A-NF9-201-010		GUIDE, OPE 1 WAY				
30	82-NF7-210-110		GUIDE, FL				
31	8A-NF8-206-010		HLDR, PWB M				
32	88-906-251-110		FF-CABLE, 6P 1.25				
33	8A-NF8-205-010		HLDR, IC				
34	88-913-301-110		FF-CABLE, 13P-1.25				
35	88-911-101-110		FF-CABLE, 11P 1.25				

COLOR NAME TABLE

Basic color symbol	Color	Basic color symbol	Color	Basic color symbol	Color
B	Black	C	Cream	D	Orange
G	Green	H	Gray	L	Blue
LT	Transparent Blue	N	Gold	P	Pink
R	Red	S	Silver	ST	Titan Silver
T	Brown	V	Violet	W	White
WT	Transparent White	Y	Yellow	YT	Transparent Yellow
LM	Metallic Blue	LL	Light Blue	GT	Transparent Green
LD	Dark Blue	DT	Transparent Orange	GM	Metallic Green
YM	Metallic Yellow	DM	Metallic Orange		



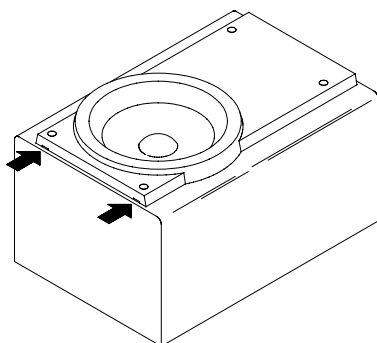
TAPE MECHANISM PARTS LIST 1 / 1

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8Z-ZM3-227-010		BELT, MAIN M3	31	8Z-ZM3-233-010		SPR-T, BRG M3
2	8Z-ZM3-235-010		BELT, MAIN L	32	84-ZM2-227-310		SPR-C, AZIMUTH
3	8Z-ZM1-235-010		PULLEY, MOT	33	87-A90-403-110		HEAD, RPH MS15R
4	87-045-347-010		MOT, SHU2L 70	34	87-A90-404-010		HEAD, EH LE15B
5	8Z-ZM1-232-010		GEAR, IDL FF/REW	35	8Z-ZM3-239-010		SPR-E, FR
6	8Z-ZM3-244-010		GEAR, CAM TD20	36	8Z-ZM3-211-010		LEVER, EJECT R
7	8Z-ZM3-242-010		SHAFT, CAP M3	37	8Z-ZM3-225-010		LEVER, STOP
8	8Z-ZM3-228-010		FLY-WHL, M3	38	8Z-ZM3-221-010		LEVER, CAS
9	8Z-ZM3-231-010		SPR-T, TRIG	39	8Z-ZM3-234-010		SPR-T, LVR CAS
10	8Z-ZM3-213-010		CLR, MG	40	8Z-ZM3-223-010		SPR-C, REEL R M3
11	82-ZM3-616-010		RING MAGNET 4	41	8Z-ZM1-225-110		GEAR, REEL R
12	8Z-ZM3-243-010		LEVER ASSY, HD UP	42	8Z-ZM3-240-010		SPR-T, T-UP M3
13	8Z-ZM3-238-010		SPR-T, HD UP	43	8Z-ZM3-237-010		SPR-T, PINCH M3
14	8Z-ZM3-219-010		GEAR, CAM M3	44	8Z-ZM3-215-010		LEVER, PINCH M3
15	8Z-ZM3-206-010		LEVER, TRIG	45	8Z-ZM1-261-110		ROLLER ASSY, PINCH
16	8Z-ZM3-209-010		LEVER, CAM FR	46	8Z-ZM1-226-010		GEAR, REEL L
17	8Z-ZM2-211-010		FLY-WHL, ZZM-2	47	8Z-ZM3-222-010		SPR-C, REEL L M3
18	8Z-ZM1-228-010		GEAR, SLIP T-UP B	48	8Z-ZM3-251-010		GEAR, IDL REW M3
19	8Z-ZM1-265-010		FELT, T-UP	49	8Z-ZM3-236-010		SPR-T, PLAY M3
20	8Z-ZM1-227-010		GEAR, SLIP T-UP A	50	82-ZM1-240-110		LVR, REC(*)
21	8Z-ZM1-251-110		SPR-C, T-UP SLIP	51	8Z-ZM3-216-010		LEVER, T-UP M3
22	8Z-ZM1-275-010		W-L, 1, 47-4-0.25	52	87-B10-301-010		W-L, 1.63-3.2-05 SLIT
23	8Z-ZM1-257-010		SPR-C, F/R	53	8Z-ZM3-212-010		LEVER, EJECT L
24	8Z-ZM1-236-010		CLR, SLIP FF/REW	54	8Z-ZM3-214-010		HLDR, IC
25	8Z-ZM3-226-010		SPR-C, FR M3	55	86-ZM3-605-110		CONN ASSY, 8P -RPB
26	8Z-ZM3-250-010		GEAR, SLIP F/R A M3	56	8Z-ZM3-203-010		CHAS ASSY, M3
27	8Z-ZM1-269-010		FELT, FF/REW 2	A	84-ZM2-242-010		S-SCREW, AZ1-2-6.4
28	8Z-ZM1-238-110		GEAR, SLIP FF/REW B 2	B	8Z-ZM2-220-110		V+2.6 ZZM-2
29	8Z-ZM3-220-010		LEVER, FR M3				
30	8Z-ZM3-205-010		LEVER, PLAY M3				

SPEAKER DISASSEMBLY INSTRUCTIONS

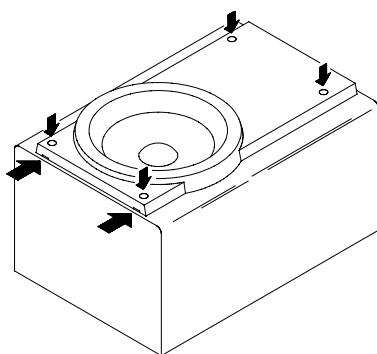
Type.1

Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Remove the screws of each speaker unit and then remove the speaker units.



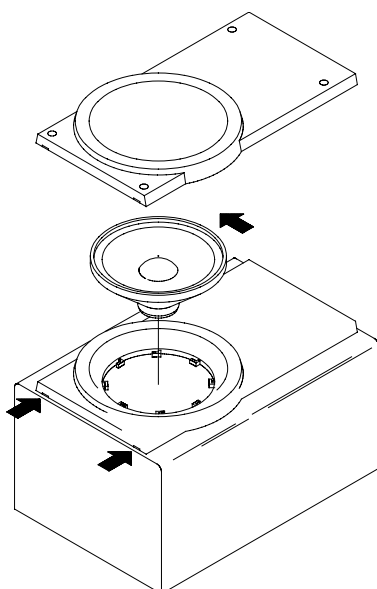
Type.2

Remove the grill frame and four pieces of rubber caps by pulling out with a flat-bladed screwdriver. Remove the screws from hole where installed rubber caps. Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Remove the screws of each speaker unit and then remove the speaker units.

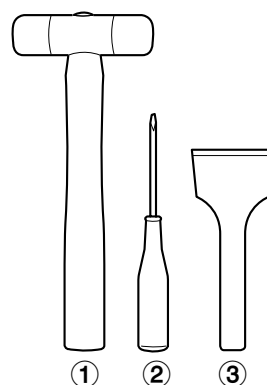


Type.3

Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Turn the speaker unit to counter-clockwise direction while inserting a flat-bladed screwdriver into one of the hollows around speaker unit, and then remove the speaker unit. After replacing the speaker unit, install it turning to clockwise direction until "click" sound comes out.



Type.4



TOOLS

- ① Plastic head hammer
- ② (⊖) flat head screwdriver
- ③ Cut chisel

How to Remove the PANEL, FR

1. Insert the (⊖) flat head screwdriver tip into the gap between the PANEL, FR and the PANEL, SPKR. Tap the head of the (⊖) flat head screwdriver with the plastic hammer head, and create the clearance as shown in Fig-1.
2. Insert the cut chisel in the clearance, and tap the head of the cut chisel with plastic hammer as shown in Fig-2, to remove the PANEL, FR.
3. Place the speaker horizontally. Tap head of the cut chisel with plastic hammer as shown in Fig-3, and remove the PANEL, FR completely.

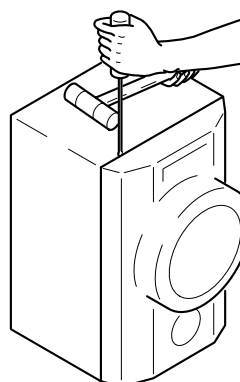


Fig-1

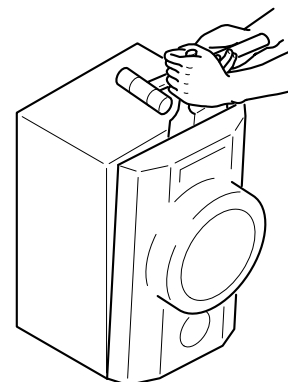


Fig-2

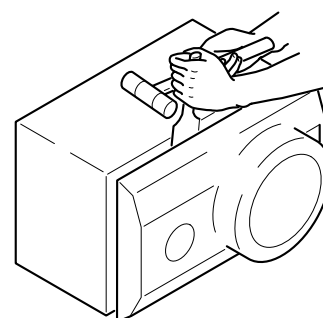


Fig-3

How to Attach the PANEL, FR

Attach the PANEL, FR to the PANEL, SPKR. Tap the four corners of the PANEL, FR with the plastic hammer to fit the PANEL, FR into the PANEL, SPKR completely.

SPEAKER PARTS LIST

SX-NSZ22 (YJSC,YJSL,YJSC9,YJSK1BL,YJ3SL,YJ7SL,YLSC,YLSL) <HR,HA>

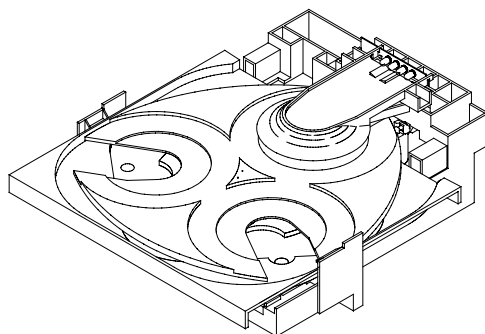
SX-SNSZ22 (YLSC3M) <LH>

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8A-NSK-001-010		PANEL,FR
2	8A-NSK-003-010		GRILLE,FRAME ASSY
3	8A-NSK-007-010		PROTECTOR,TWA
4	8A-NSK-602-010		SPKR,W 140<EXCEPT YJSC,YLSC,YJSK1BL>
4	8A-NSJ-602-010		SPKR,W 130<YJSC,YLSC,YJSK1BL>
5	88-NS5-605-010		SPKR,T 60<YJSC9,YJ3SL,YJ7SL,YLSL>
5	8A-NSK-604-010		SPKR,TW 60<YJSC,YJSL,YLSC>
5	8A-NSK-606-010		SPKR,T 60<YJSK1BL,YLSC3M>
6	87-NSH-612-010		SPKR,CERAMIC ASSY
7	87-NS7-611-010		CORD,SPKR
8	8A-NSK-015-010		CORD,BUSH<YJSK1BL>

ACCESSORIES / PACKAGE LIST

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8A-NF9-901-010		IB,H(ECA)M<HR>
1	8A-NF9-902-010		IB,LH(ECP)M<LH,HA>
1	8A-NF9-928-010		IB,HA(S)NEA<EHA>
2	87-043-115-010		ANT,FEEDER FM
3	87-A90-119-010		ANT,WIRE SW(5M)<HR>
4	87-006-226-010		AM-LOOP ANT C0<HR>
4	87-006-225-010		AM LOOP ANT NC2<EXCEPT HR>
△ 5	87-A91-017-010		PLUG,CONVERSION JT-0476<HR>
6	8Z-NF9-701-210		RC UNIT,ZAS02

アイワ株式会社 〒110-8710 東京都台東区池之端1-2-11 ☎03(3827)3111 (代表)
AIWA CO.,LTD. 2-11, IKENOHATA 1-CHOME, TAITO-KU, TOKYO 110, JAPAN TEL:03 (3827) 3111



SERVICE MANUAL

CD MECHANISM

BASIC CD MECHANISM : KSM-880CAB

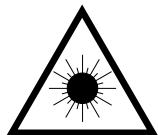
TYPE
Z8RMDJM

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

VAROITUS!

Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyttäjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

WARNING!

Om apparaten används på annat sätt än vad som specificeras i denna bruksanvisning, kan användaren utsättas för osynlig laserstrålning, som överskrider gränsen för laserklass 1.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

ATTENTION

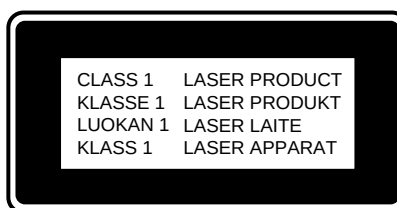
L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

ADVARSEL!

Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

This Compact Disc player is classified as a CLASS 1 LASER product.

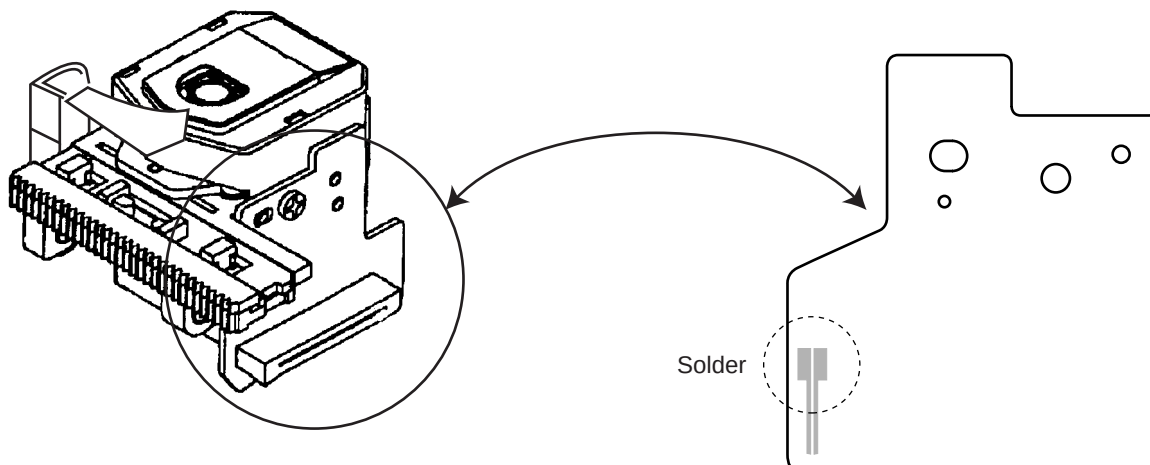
The CLASS 1 LASER PRODUCT label is located on the rear exterior.



Precaution to replace Optical block

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

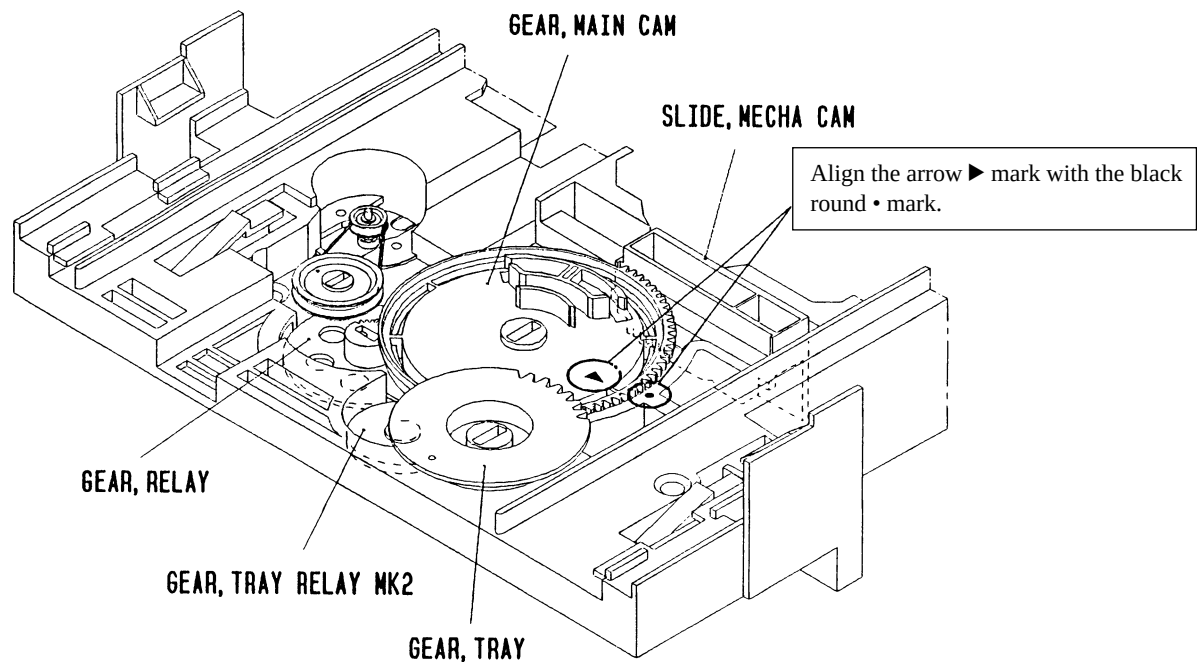
- 1) After the connection, remove solder shown in the figure below.



How to Adjust the Rotating Phase of the Gear, Main Cam

- 1) Push down the hooking catch of the CHAS. MECH, and remove the TRAY.
- 2) Align the arrow mark of the Gear, Main Cam with the black round mark of the CHAS, MECHA as shown below.
- 3) Confirm that the Slide, Mech Cam is located in the right position, then insert the TRAY gently.

Caution: If the rotating phase of the Gear, Main Cam is incorrectly adjusted, the chucking operation and tray movement will have malfunction.



ELECTRICAL MAIN PARTS LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
IC				C111	87-010-312-080		C-CAP, S 15P-50 CH
	87-A20-446-010	C-IC, LA9241ML		C112	87-010-154-080		CAP CHIP 10P
	87-A21-319-010	C-IC, LC78622NE		C113	87-010-178-080		CHIP CAP 1000P
	87-A20-445-010	IC, BA5936		C115	87-010-404-080		CAP, ELECT 4.7-50V
				C116	87-010-196-080		CHIP CAPACITOR, 0.1-25
TRANSISTOR				C117	87-010-263-040		CAP, E 100-10
	87-026-609-080	TR, KTA1266GR		C118	87-010-178-080		CHIP CAP 1000P
	87-026-295-080	TR, DTC144TK		C121	87-010-403-080		CAP, ELECT 3.3-50V
	87-A30-087-080	C-FET, 2SK2158		C122	87-010-403-080		CAP, ELECT 3.3-50V
	87-026-237-080	CHIP-TR, DTC124XK		C123	87-010-180-080		C-CER 1500P
	87-A30-076-080	C-TR, 2SC3052F		C124	87-010-180-080		C-CER 1500P
				C132	87-010-196-080		CHIP CAPACITOR, 0.1-25
	87-A30-075-080	C-TR, 2SA1235F		C135	87-010-314-080		C-CAP, S 22P-50V
				C191	87-010-263-040		CAP, E 100-10
				C192	87-010-178-080		CHIP CAP 1000P
DIODE				C193	87-010-196-080		CHIP CAPACITOR, 0.1-25
	87-020-465-080	DIODE, 1SS133 (110MA)		C201	87-010-196-080		CHIP CAPACITOR, 0.1-25
	87-020-331-080	CHIP-DIODE, DAN202K		C204	87-010-196-080		CHIP CAPACITOR, 0.1-25
	87-A40-337-080	ZENER, MTZJ 6.8B		C205	87-010-196-080		CHIP CAPACITOR, 0.1-25
	87-A40-313-080	C-DIODE, MC 2840		C206	87-010-196-080		CHIP CAPACITOR, 0.1-25
	87-A40-620-080	ZENER, MTZJ6.2A		C207	87-010-196-080		CHIP CAPACITOR, 0.1-25
				C208	87-010-196-080		CHIP CAPACITOR, 0.1-25
3CD C.B				C211	87-010-405-040		CAP, E 10-50
				C212	87-010-405-040		CAP, E 10-50
				C213	87-010-196-080		CHIP CAPACITOR, 0.1-25
C11	87-012-393-080	C-CAP, S 0.22-16 R K		C251	87-010-322-080		C-CAP, S 100P-50 CH
C12	87-012-157-080	C-CAP, S 330P-50 CH		C252	87-010-322-080		C-CAP, S 100P-50 CH
C13	87-016-369-080	C-CAP, S 0.033-25 B K		C253	87-010-322-080		C-CAP, S 100P-50 CH
C14	87-A10-201-080	C-CAP, S0.33-16 KB		C281	87-010-382-040		CAP, E 22-25 SME
C15	87-010-213-080	C-CAP, S 0.015-50 B		C401	87-A10-730-080		CAP, E 1000-16 SMG
C16	87-016-083-080	C-CAP, S 0.15-16 RK		C402	87-010-197-080		CAP, CHIP 0.01 DM
C17	87-010-184-080	CHIP CAPACITOR 3300P(K)		C403	87-010-196-080		CHIP CAPACITOR, 0.1-25
C18	87-A11-177-080	C-CAP, S 0.15-16 K B		C404	87-010-260-040		CAP, E 47-25 SME
C19	87-010-992-080	C-CAP, S 0.047-25 B		C405	87-010-382-080		CAP, ELECT 22-25V
C20	87-010-178-080	CHIP CAP 1000P		C421	87-010-382-080		CAP, ELECT 22-25V
C21	87-012-393-080	C-CAP, S 0.22-16 R K		C422	87-010-196-080		CHIP CAPACITOR, 0.1-25
C22	87-016-083-080	C-CAP, S 0.15-16 RK		C901	87-010-260-080		CAP, ELECT 47-25V
C23	87-010-197-080	CAP, CHIP 0.01 DM		C902	87-010-196-080		CHIP CAPACITOR, 0.1-25
C24	87-010-186-080	CAP, CHIP 4700P		CN1	87-A60-429-010		CONN, 16P H TOC-A
C25	87-010-400-040	CAP, E 0.47-50		CN2	87-099-199-010		CONN, 6P 6216 H
C26	87-010-322-080	C-CAP, S 100P-50 CH		CN201	87-099-030-010		CONN, 13P 6216H
C27	87-010-382-040	CAP, E 22-25 SME		CN203	87-099-212-010		CONN, 5P 6216 V
C28	87-010-545-040	CAP, E 0.22-50 SME		CN204	84-ZG1-648-010		CONN ASSY, 6P
C29	87-010-184-080	CHIP CAPACITOR 3300P(K)		CN501	87-A60-666-010		CONN, 2P H 2MM JMT
C31	87-010-186-080	CAP, CHIP 4700P		FB501	87-A50-189-080		C-COIL, S BLM21B272S
C32	87-010-315-080	C-CAP, S 27P-50 CH		L11	87-005-849-080		COIL, 10UH(CECS)
C33	87-016-081-080	C-CAP, S 0.1-16 RK		L101	87-005-614-080		COIL 100UH LAV35 J
C35	87-010-196-080	CHIP CAPACITOR, 0.1-25		L102	87-005-602-080		COIL, 10UH LAV35 J
C37	87-010-405-080	CAP, ELECT 10-50V		LED901	87-A40-558-010		LED, SLZ-8128A-01-A
C38	87-010-263-080	CAP, ELECT 100-10V		M201	87-045-305-010		MOTOR, RF-500TB DC-5V (2MA)
C39	87-010-197-080	CAP, CHIP 0.01 DM		SFR101	87-A90-787-080		SFR, 100K H HOKU
C40	87-010-401-080	CAP, ELECT 1-50V		SW201	87-036-109-010		SW, MICRO SPPB61
C41	87-016-081-080	C-CAP, S 0.1-16 RK		SW202	87-036-109-010		SW, MICRO SPPB61
C42	87-010-263-080	CAP, ELECT 100-10V		X101	87-A70-046-010		VIB, XTAL 16.934MHZ
C43	87-010-197-080	CAP, CHIP 0.01 DM					
C44	87-010-263-080	CAP, ELECT 100-10V					
C46	87-010-196-080	CHIP CAPACITOR, 0.1-25		LED C.B			
C47	87-010-260-080	CAP, ELECT 47-25V		LED301	87-A40-263-080		LED, SLH-56PCT31 GRN
C48	87-010-196-080	CHIP CAPACITOR, 0.1-25		LED302	87-A40-268-080		LED, SLH-56DCT31 ORN
C49	87-010-404-080	CAP, ELECT 4.7-50V		LED303	87-A40-268-080		LED, SLH-56DCT31 ORN
C50	87-010-197-080	CAP, CHIP 0.01 DM		LED304	87-A40-263-080		LED, SLH-56PCT31 GRN
C51	87-010-263-040	CAP, E 100-10					
C52	87-012-156-080	C-CAP, S 220P-50 CH		T-T C.B			
C71	87-012-393-080	C-CAP, S 0.22-16 R K		C401	87-018-214-080		CAP TC U 0.1-50F
C101	87-016-369-080	C-CAP, S 0.033-25 B K		CON401	86-NFZ-675-010		CONN, 5P H 6216-11H
C102	87-016-081-080	C-CAP, S 0.1-16 RK		M401	87-045-364-010		MOTOR(BCH3B14)
C103	87-010-318-080	C-CAP, S 47P-50 CH		PS401	87-026-573-010		SNSR, PHOTO GP1S53V
C104	87-012-154-080	C-CAP, S 150P-50 CH					
C105	87-010-196-080	CHIP CAPACITOR, 0.1-25					
C109	87-010-197-080	CAP, CHIP 0.01 DM					

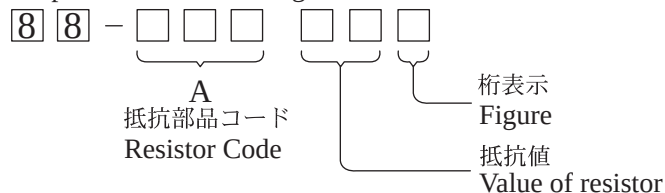
REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
MOTOR C.B							
PIN3	91-564-722-110		CONN,PIN 6P				
SW1	91-572-085-110		LEAF SWITCH				

- Regarding connectors, they are not stocked as they are not the initial order items.
The connectors are available after they are supplied from connector manufacturers upon the order is received.

○チップ抵抗部品コード／CHIP RESISTOR PART CODE

チップ抵抗部品コードの成り立ち

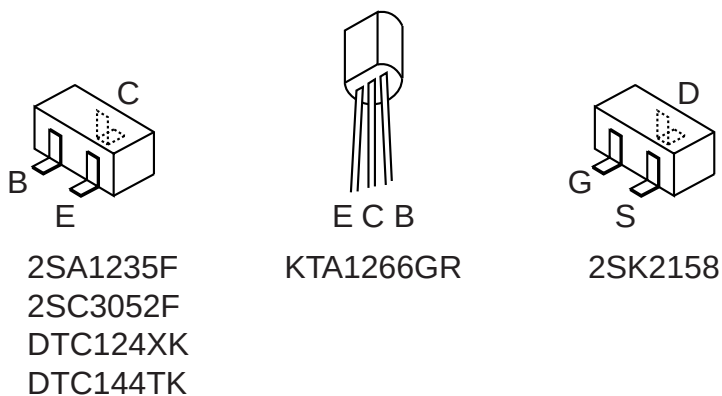
Chip Resistor Part Coding



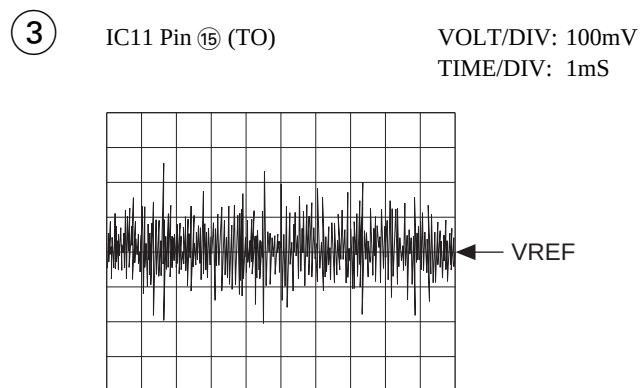
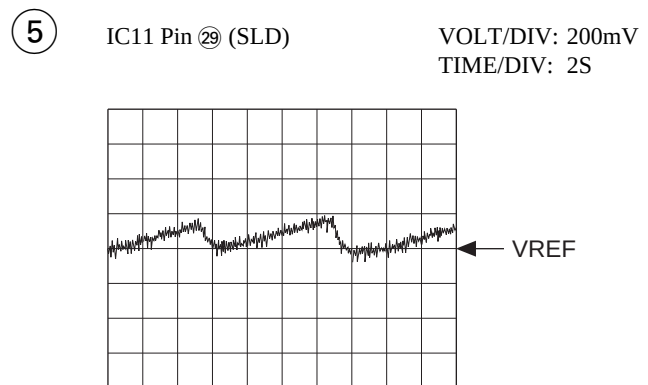
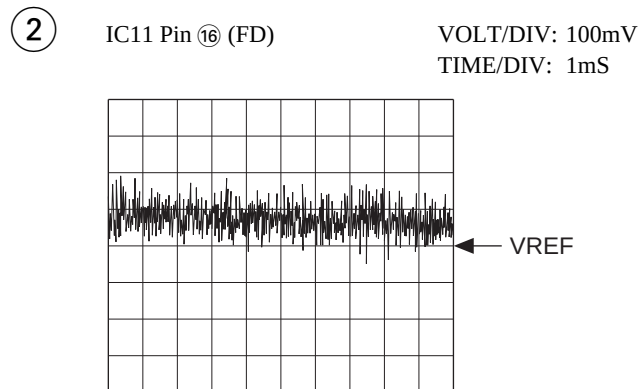
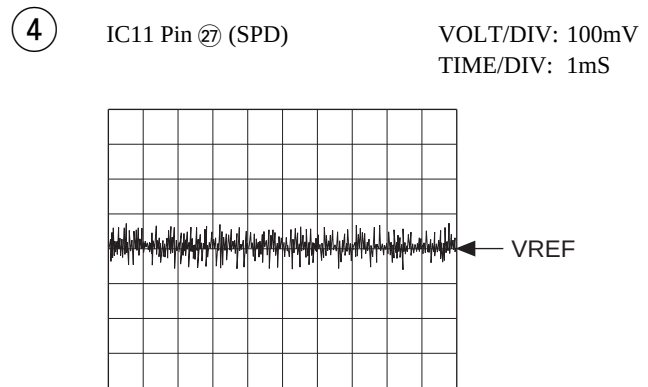
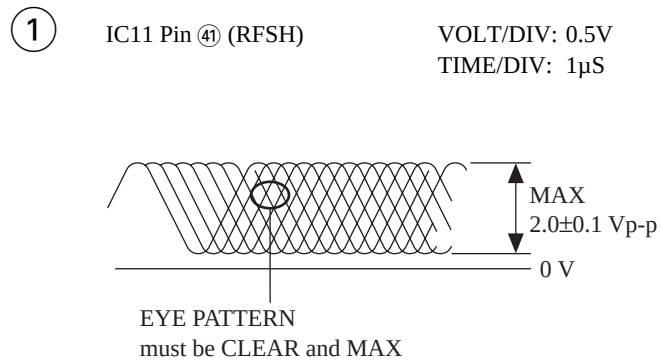
チップ抵抗
Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm)				抵抗コード Resistor Code : A
				外形／Form	L	W	t	
1/16W	1005	± 5%	CJ		1.0	0.5	0.35	104
1/16W	1608	± 5%	CJ		1.6	0.8	0.45	108
1/10W	2125	± 5%	CJ		2	1.25	0.45	118
1/8W	3216	± 5%	CJ		3.2	1.6	0.55	128

TRANSISTOR ILLUSTRATION

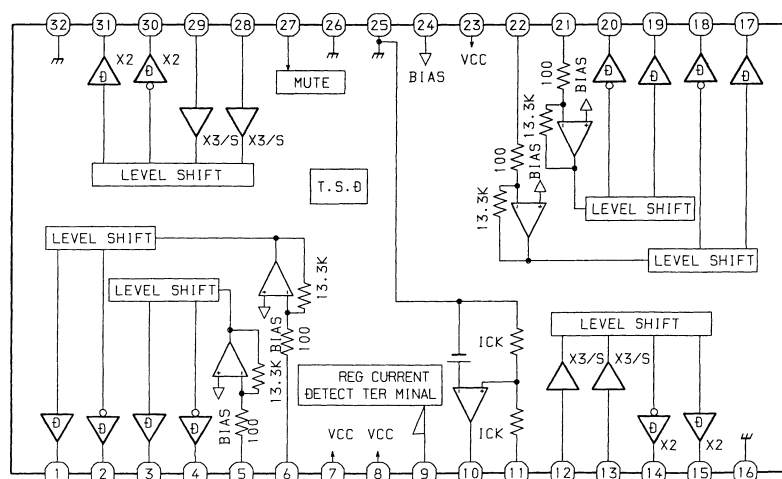


WAVE FORM

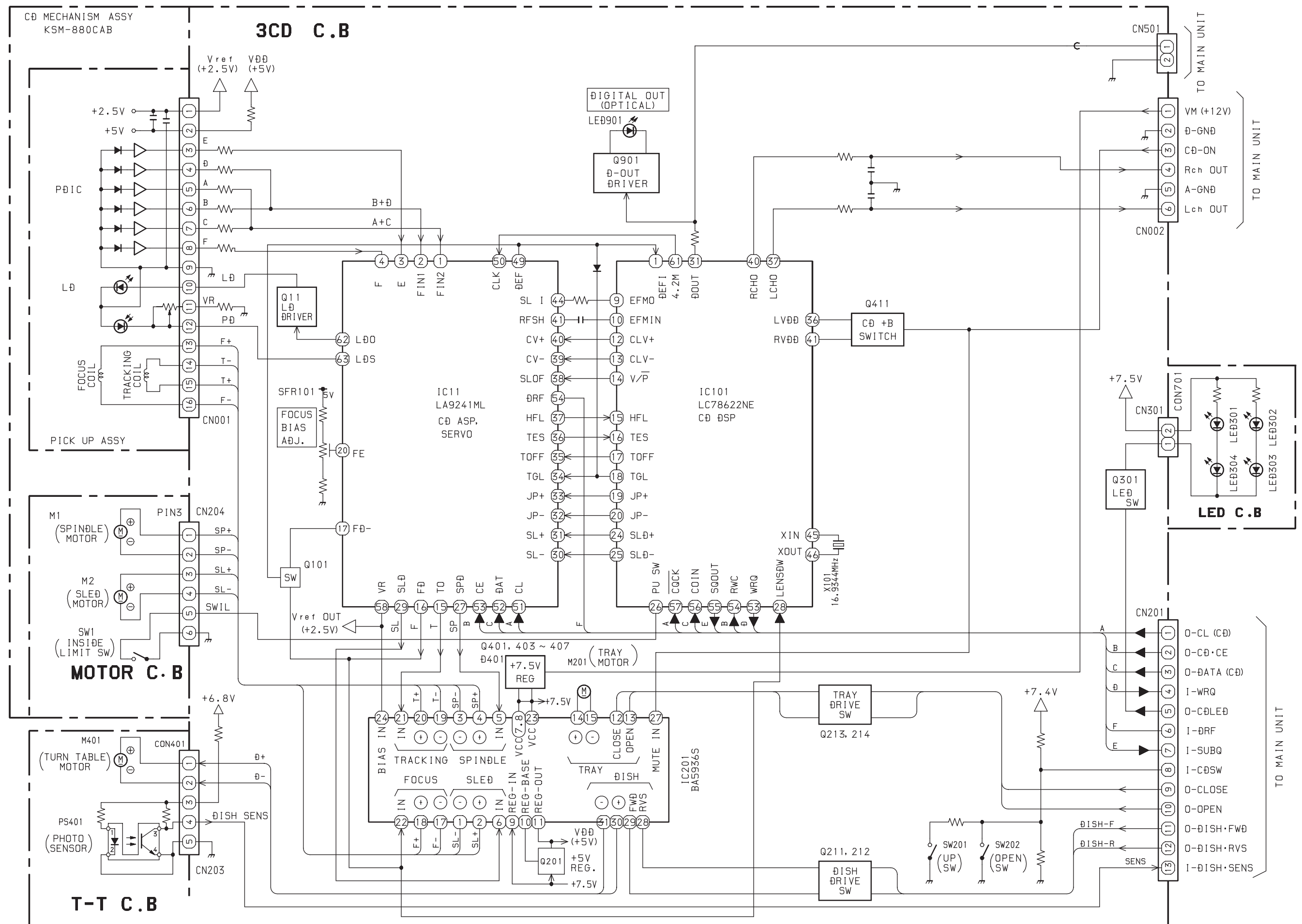


IC BLOCK DIAGRAM

IC, BA5936S

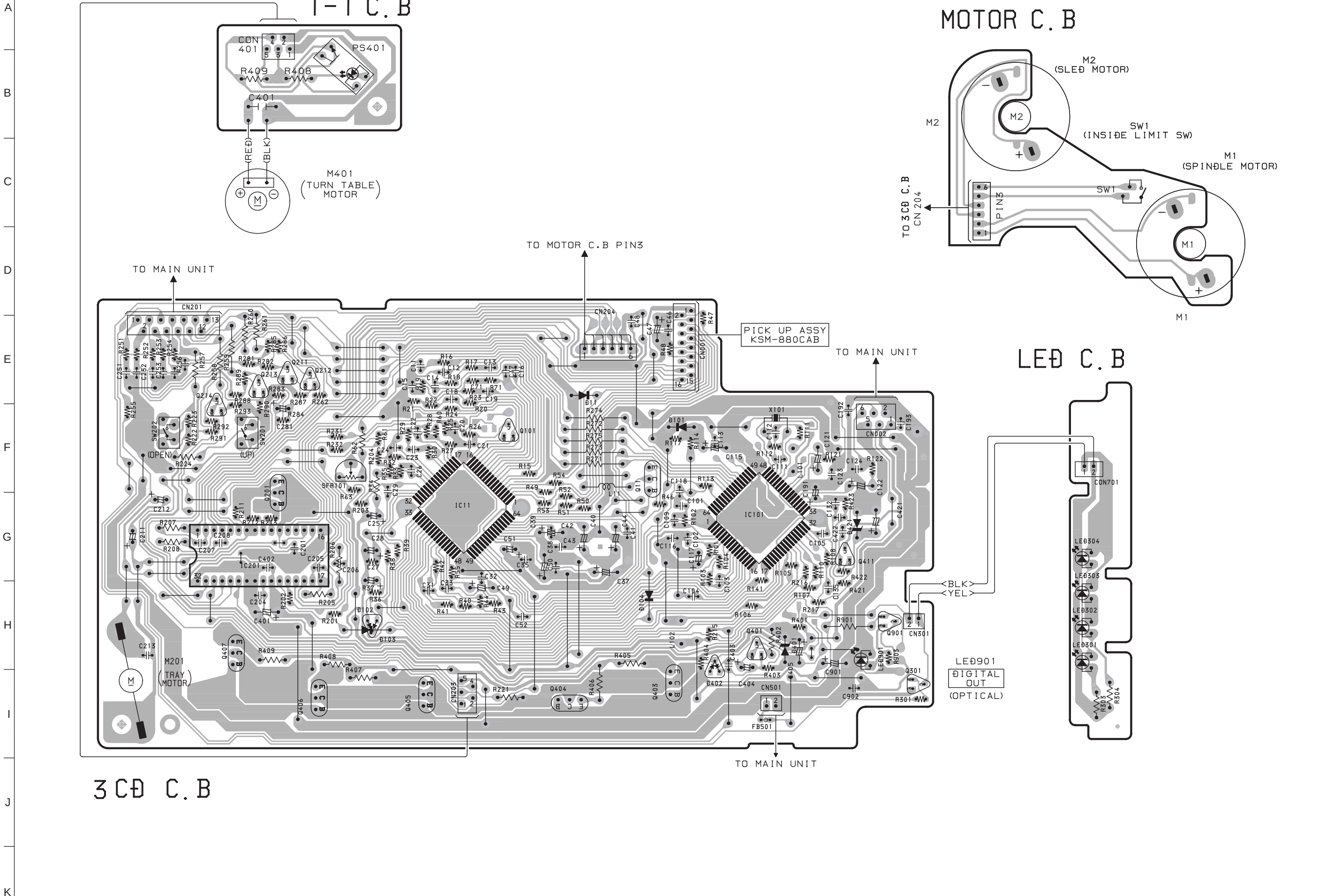


BLOCK DIAGRAM

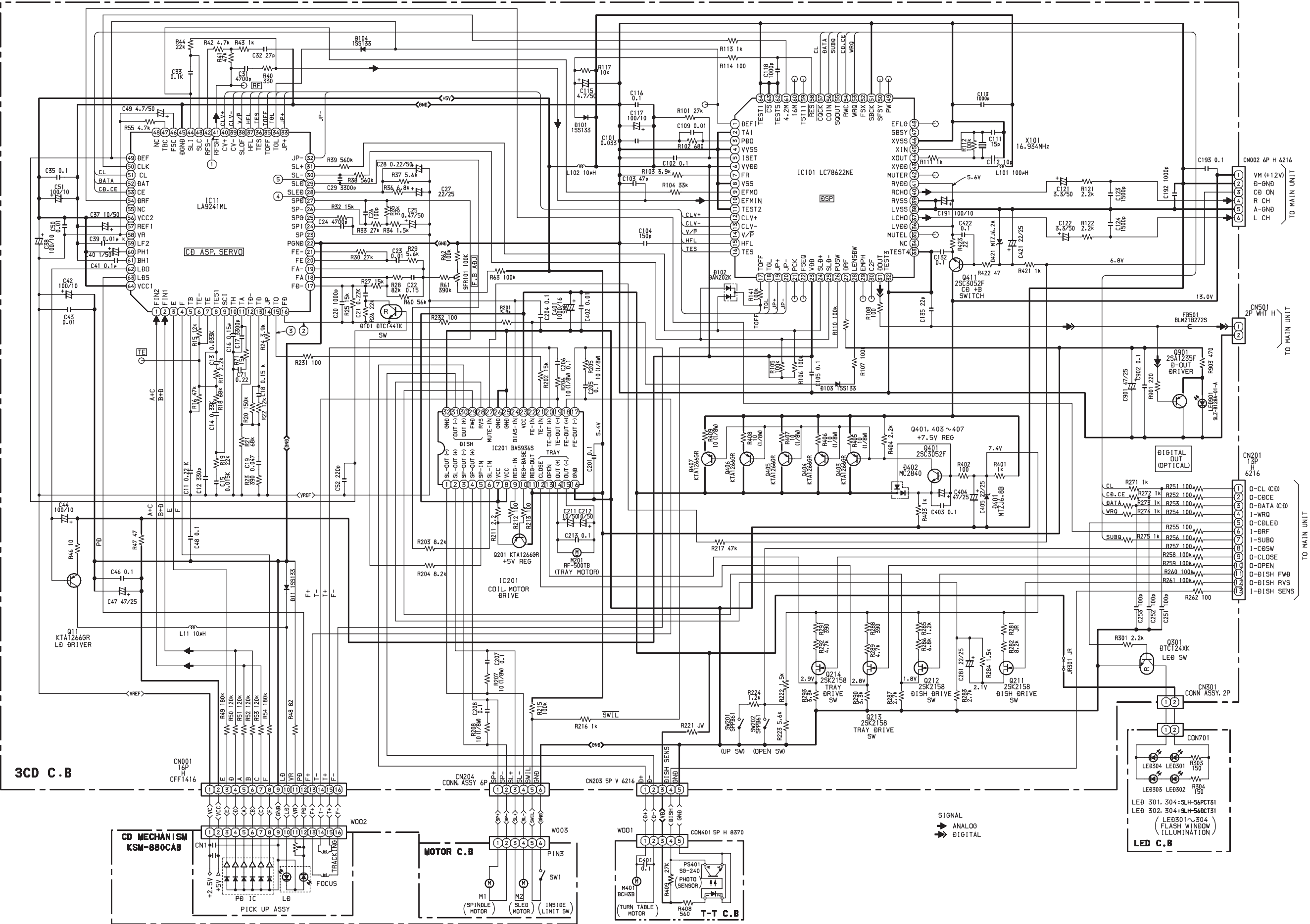


WIRING

1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |



SCHEMATIC DIAGRAM



TEST MODE

1. How to Activate CD Test Mode
Insert the AC plug while pressing the function CD button.
All FL display tubes will light up, and the test mode will be activated.
2. How to Cancel CD Test Mode
Either one of the following operations will cancel the CD test mode.
 - Press the function button. (except CD function button)
 - Press the power switch button.
 - Disconnect the AC plug
3. CD Test Mode Functions
When test mode is activated, the following mode functions from No.1 to No.5 can be used by pressing the operation keys.

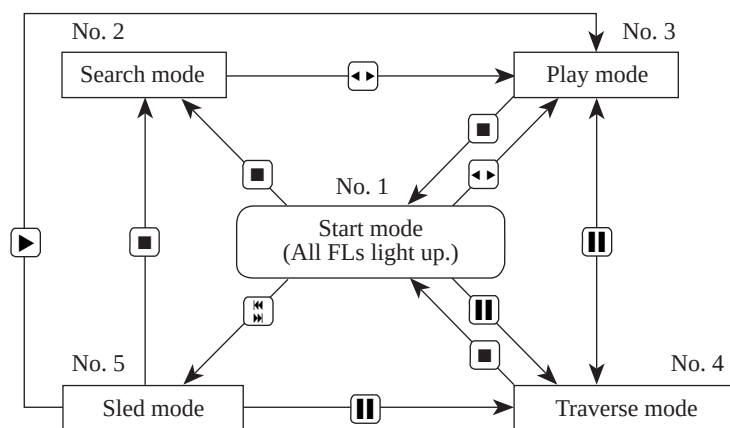
[illegible]

* NOTE 1: There are cases when the tracking servo cannot be locked owing to the protection circuit being operated when heat builds up in the driver IC if the focus search is operated continually for more than 10 minutes. In these cases the power supply should be switched off for 10 minutes until heat has been reduced and then re-started.

* NOTE 2: Do not press the or keys when the machine is in the status is active. If they are pressed, playback will not be possible after the status has been canceled. If the or keys are pressed in the status, press the key and return to the start mode (No.1).

* NOTE 3: When pressing the or keys, take care to avoid damage to the gears. Because the sled motor is activated when the or keys are pressed, even when the pick-up is at the outermost or innermost track.

4. Operation Outline
- The operation of each mode is carried out in the direction of the arrows from the start mode as indicated in the following illustration.



If the DISC DIRECT PLAY button is pressed, the machine performs the same operation as the PLAY button is pressed as shown. If the tray is opened by pressing OPEN/CLOSE button during Play mode or Traverse mode, the machine returns to the Start mode.

IC DESCRIPTION

IC, LC78622NE

Pin No.	Pin Name	I/O	Description	
1	DEFI	I	Defect sense signal (DEF) input pin. (Connect to 0V when not used).	
2	TAI	I	For PLL.	Test signal input pin with built-in pull-down resistor. Be sure to connect to 0V.
3	PDO	O		Phase comparator output pin to control external VCO.
4	VVSS	—		GND pin for built-in VCO. Be sure to connect to 0V.
5	ISSET	I		Pin to which external resistor adjusting the PD0 output current.
6	VVDD	—		Power supply pin for built-in VCO.
7	FR	I		Pin for VCO frequency range adjustment.
8	VSS	—	Digital system GND. Be sure to connect to 0V.	
9	EFMO	O	For slice level control.	EFM signal output pin.
10	EFMIN	I		EFM signal input pin.
11	TEST2	I	Test signal input pin with built-in pull-down resistor. Be sure to connect to 0V.	
12, 13	CLV+, CLV–	O	Disc motor control output. Three level output is possible using command.	
14	V/P	O	Rough servo or phase control automatic selection monitoring output pin. Rough servo at H. Phase servo at L.	
15	HFL	I	Track detect signal input pin. Schmidt input.	
16	TES	I	Tracking error signal input pin. Schmidt input.	
17	TOFF	O	Tracking OFF output pin.	
18	TGL	O	Tracking gain selection output pin. Gain boost at L.	
19, 20	JP+, JP–	O	Track jump control signal output pin. Three level output is possible using command.	
21	PCK	O	EFM data playback clock monitoring pin 4.3218 MHz when phase is locked in.	
22	FSEQ	O	Sync signal detection output pin. H when the sync signal which is detected from EFM signal and the sync signal which is internally generated agree.	
23	VDD	—	Digital system power supply pin.	
24	SLD+	I/O	General purpose input/output pin 1 to 5.	The pin is controlled by the serial data command from microprocessor. When the pin is not used, set the pin to the input terminal and connect to 0V, or alternately set the pin to output terminal and leave the pin open.
25	SLD-	I/O		
26	PUSW	I/O		
27	DRF	I/O		
28	LENSDW	I/O		
29	EMPH	O	De-emphasis monitor output pin. De-emphasis disc is being played back at H.	
30	C2F	O	C2 flag output pin.	
31	DOUT	O	DIGITAL OUT output pin. (EIAJ format).	
32, 33	TEST3, TEST4	I	Test signal input pin with built-in pull-down resistor. Be sure to connect to 0V.	
34	N.C.	—	Not used. Set the pin to open.	
35	MUTEL	O	L-channel 1-bit DAC.	L-channel mute output pin.
36	LVDD	—		L-channel power supply pin.
37	LCHO	O		L-channel output pin.
38	LVSS	—		L-channel GND. Be sure to connect to 0V.
39	RVSS	—	R-channel 1-bit DAC.	R-channel GND. Be sure to connect to 0V.
40	RCHO	O		R-channel output pin.
41	RVDD	—		R-channel power supply pin.
42	MUTER	O		R-channel mute output pin.

Pin No.	Pin Name	I/O	Description
43	XVDD	—	Crystal oscillator power supply pin.
44	XOUT	O	Pin to which external 16.9344 MHz crystal oscillator is connected.
45	XIN	I	
46	XVSS	—	Crystal oscillator GND pin. Be sure to connect to 0V.
47	SBSY	O	Subcode block sync signal output pin.
48	EFLG	O	C1, C2, single and dual correction monitoring pin.
49	PW	O	Subcode P, Q, R, S, T, U and W output pin.
50	SFSY	O	Subcode frame sync signal output pin. Falls down when subcode enters standby.
51	SBCK	I	Subcode read clock input pin. Schmidt input. (Be sure to connected to 0V when not in use.)
52	FSX	O	Pin outputting the 7.35 kHz sync signal which is generated by dividing frequency of crystal oscillator.
53	WRQ	O	Subcode Q output standby output pin.
54	RWC	I	Read/write control input pin. Schmidt input.
55	SQOUT	O	Subcode Q output pin.
56	COIN	I	Command input pin from microprocessor.
57	$\overline{\text{CQCK}}$	I	Command input read clock or subcode read input clock from SQOUT pin
58	$\overline{\text{RES}}$	I	LC78622 reset input pin. Set this pin to L once when the main power is turned on.
59	TST11	O	Test signal output pin. Use this pin as open (normally L output).
60	16M	O	16.9344 MHz output pin.
61	4.2M	O	4.2336 MHz output pin.
62	TEST5	I	Test signal input pin with built-in pull-down resistor. Be sure to connect to 0V.
63	$\overline{\text{CS}}$	I	Chip select signal input pin with built-in pull-down resistor. Be sure to connect to 0V while it is not controlling.
64	TEST1	I	Test signal input pin without built-in pull-down resistor. Be sure to connect to 0V.

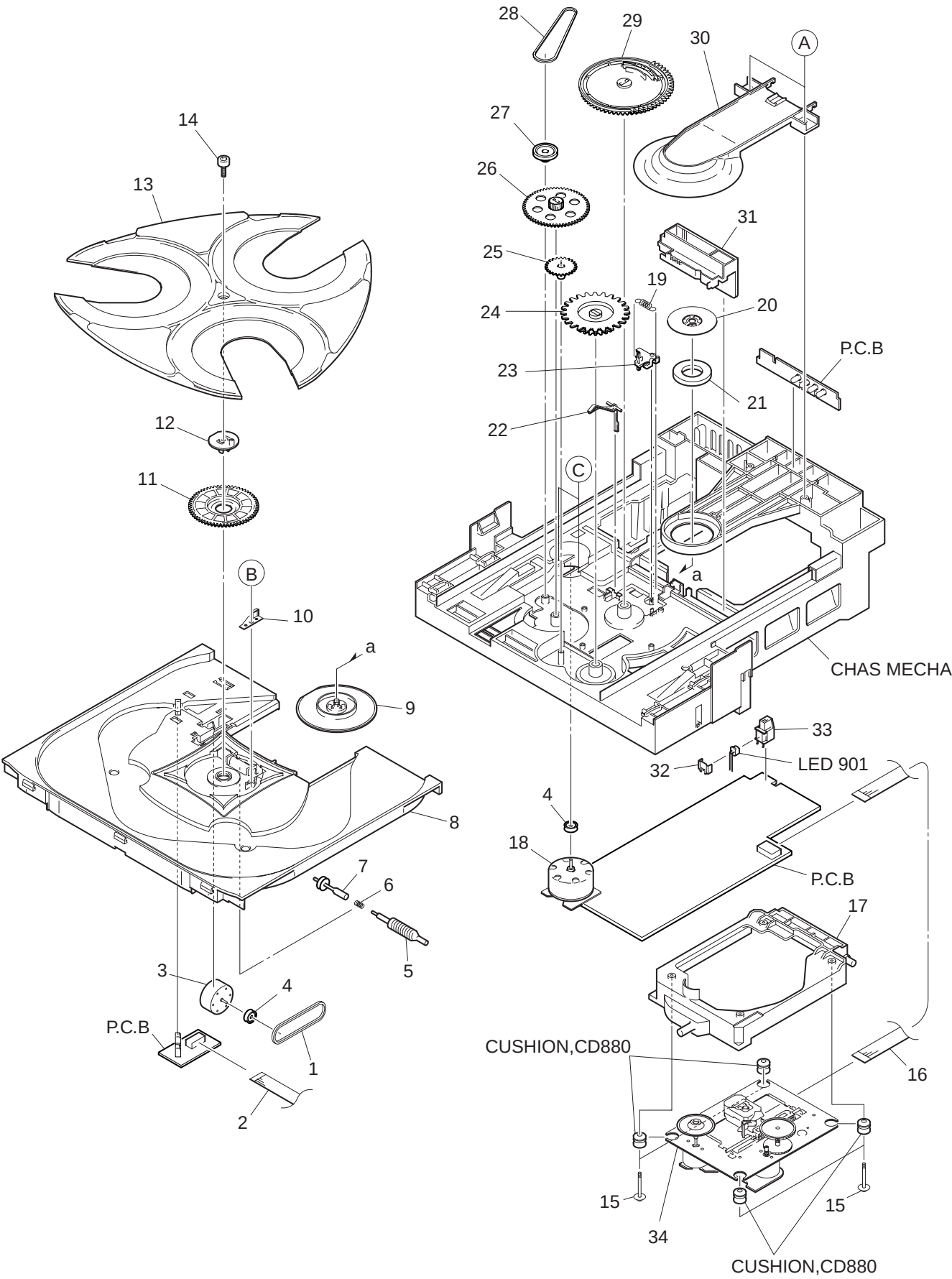
Note: The same potential must be applied to the respective power supply terminals. (VDD, VVDD, LVDD, RVDD, XVDD)

IC, LA9241ML

Pin No.	Pin Name	I/O	Description
1	FIN2	I	Pin to which external pickup photo diode is connected. RF signal is created by adding with the FIN1 pin signal. FE signal is created by subtracting from the FIN1 pin signal.
2	FIN1	I	Pin to which external pickup photo diode is connected.
3	E	I	Pin to which external pickup photo diode is connected. TE signal is created by subtracting from the F pin signal.
4	F	I	Pin to which external pickup photo diode is connected.
5	TB	I	DC component of the TE signal is input.
6	TE–	I	Pin to which external resistor setting the TE signal gain is connected between the TE pin.
7	TE	O	TE signal output pin.
8	TESI	I	TES “Track Error Sense” comparator input pin. TE signal is passed through a band-pass filter then input.
9	SCI	I	Shock detection signal input pin.
10	TH	I	Tracking gain time constant setting pin.
11	TA	O	TA amplifier output pin.
12	TD–	I	Pin to which external tracking phase compensation constants are connected between the TD and VR pins.
13	TD	I	Tracking phase compensation setting pin.
14	JP	I	Tracking jump signal (kick pulse) amplitude setting pin.
15	TO	O	Tracking control signal output pin.
16	FD	O	Focusing control signal output pin.
17	FD–	I	Pin to which external focusing phase compensation constants are connected between the FD and FA pins.
18	FA	I	Pin to which external focusing phase compensation constants are connected between the FD– and FA– pins.
19	FA–	I	Pin to which external focusing phase compensation constants are connected between the FA and FE pins.
20	FE	O	FE signal output pin.
21	FE–	I	Pin to which external FE signal gain setting resistor is connected between the FE pin.
22	PGND	—	Analog signal GND.
23	SP	—	No connection.
24	SP1	O	Single ended output of the CV+ and CV– pin input signal.
25	SPG	I	Pin to which external spindle gain setting resistor in 12 cm mode is connected.
26	SP–	I	Pin to which external spindle phase compensation constants are connected together with SPD pin.
27	SPD	O	Spindle control signal output pin.
28	SLEQ	I	Pin to which external sled phase compensation constants are connected.
29	SLD	O	Sled control signal output pin.
30, 31	SL–, SL+	I	Sled advance signal input pin from microprocessor.
32, 33	JP–, JP+	I	Tracking jump signal input pin from DSP.
34	TGL	I	Tracking gain control signal input from DSP. Low gain when TGL = H.
35	TOFF	I	Tracking off control signal input pin from DSP. Off when TOFF = H.

Pin No.	Pin Name	I/O	Description
36	TES	O	Pin from which TES signal is output to DSP.
37	HFL	O	“High Frequency Level” is used to judge whether the main beam position is on top of bit or on top of mirror.
38	SLOF	I	Sled servo off control input pin.
39, 40	CV–, CV+	I	CLV error signal input pin from DSP.
41	RFSH	O	RF output pin.
42	RFS–	I	RF gain setting and EFM signal 3T compensation constant setting pin together with RFSM pin.
43	SLC	O	“Slice Level Control” is the output pin which controls the RF signal data slice level by DSP.
44	SLI	I	Input pin which control the data slice level by the DSP.
45	DGND	—	Digital system GND.
46	FSC	O	Output pin to which external focus search smoothing capacitor is connected.
47	TBC	I	“Tracking Balance Control” EF balance variable range setting pin.
48	NC	—	No connection.
49	DEF	O	Disc defect detector output pin.
50	CLK	I	Reference clock input pin. 4.23 MHz of the DSP is input.
51	CL	I	Microprocessor command clock input pin.
52	DAT	I	Microprocessor command data input pin.
53	CE	I	Microprocessor command chip enable input pin.
54	DRF	O	“Detect RF” RF level detector output.
55	NC	I	No connection.
56	VCC2	—	Servo system and digital system Vcc pin.
57	REF1	—	Pin to which external bypass capacitor for reference voltage is connected.
58	VR	O	Reference voltage output pin.
59	LF2	I	Disc defect detector time constant setting pin.
60	PH1	I	Pin to which external capacitor for RF signal peak holding is connected.
61	BH1	I	Pin to which external capacitor for RF signal bottom holding is connected.
62	LDO	O	APC circuit output pin.
63	LDS	I	APC circuit input pin.
64	VCC1	—	RF system Vcc pin.

MECHANICAL EXPLODED VIEW 1/1



MECHANICAL PARTS LIST 1/1

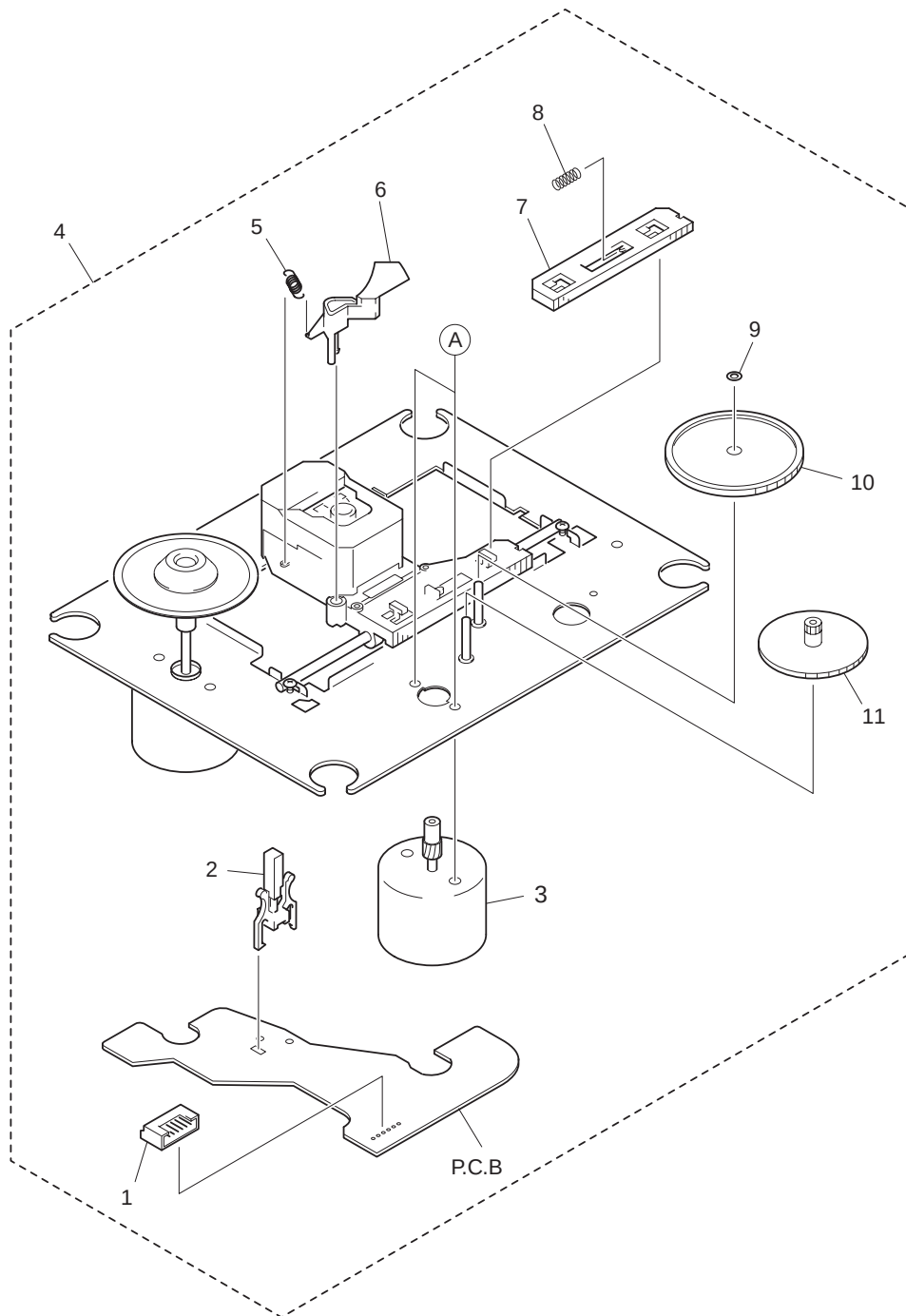
DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	84-ZG1-225-010		BELT, SQ1.0-63.3	21	83-ZG3-604-010		RING, MAG 2
2	84-ZG1-673-010		F-CABLE, 5P 1.25 210MM BLACK N	22	83-ZG3-213-010		LVR, SW
3	87-045-364-010		MOTOR(BCH3B14)	23	84-ZG1-266-010		LEVER, CAN 8
4	84-ZG1-267-010		PULLEY, LOAD M0 8	24	84-ZG1-205-210		GEAR, TRAY (*)
5	84-ZG1-238-010		GEAR, WORM N	25	81-ZG1-291-110		GEAR, TRAY RELAY N03
6	84-ZG1-248-010		SPR-C, WORM	26	84-ZG1-274-010		GEAR, RELAY 8
7	84-ZG1-239-210		PULLY, WORM N	27	84-ZG1-207-010		PULLEY, RELAY
8	84-ZG1-008-210		TRAY, N03	28	84-ZG1-209-010		BELT, SQ1.8-117.7
9	84-ZG1-243-210		HLD, MAGNET N(J)	29	84-ZG1-215-410		GEAR, MAIN CAM BLU
10	84-ZG1-259-010		SPR-P, WORM	30	84-ZG1-011-010		REFLECTOR, CD
11	84-ZG1-269-010		GEAR, MAIN TT 4	31	84-ZG1-216-310		SLIDE, MECHA CAM YEL
12	84-ZG1-224-010		LEVER, TT	32	84-ZG1-261-010		LID, OPTICAL
13	84-ZG1-005-210		TURNTABLE, N01(*)	33	84-ZG1-244-310		CABI, OPTICAL
14	81-ZG1-239-010		S-SCREW, TT	34	M8-ZZK-C90-070		KSM-880CAB
15	8A-ZG1-201-010		S-SCREW, MECH 880	A	87-067-703-010		TAPPING SCREW, BVT2+3-10
16	85-NFT-611-110		FF-CABLE 16P-1.0	B	87-067-981-010		BVT2+3-6 BLK
17	84-ZG1-299-210		HLD, MECHA N03	C	87-251-070-410		U+2.6-3
18	87-045-305-010		MOTOR, RF-500TB DC-5V (2MA)				
19	84-ZG1-211-010		SPR-E CAM S				
20	81-ZG1-255-110		PLATE, MAGNET MK2				

COLOR NAME TABLE

Basic color symbol	Color	Basic color symbol	Color	Basic color symbol	Color
B	Black	C	Cream	D	Orange
G	Green	H	Gray	L	Blue
LT	Transparent Blue	N	Gold	P	Pink
R	Red	S	Silver	ST	Titan Silver
T	Brown	V	Violet	W	White
WT	Transparent White	Y	Yellow	YT	Transparent Yellow
LM	Metallic Blue	LL	Light Blue	GT	Transparent Green
LD	Dark Blue	DT	Transparent Orange		

CD MECHANISM EXPLODED VIEW 1/1



CD MECHANISM PARTS LIST 1/1

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	91-564-722-110		CONN, PIN 6P
2	91-572-085-110		LEAF SWITCH
3	9X-264-655-010		SL MOTOR ASSY
4	M8-ZZK-C90-070		KSM-880CAB
5	92-647-416-020		SPRING EXTENSION
6	92-647-595-020		SHUTTER B
7	92-647-732-010		NS SLIDE RACK
8	92-647-742-010		SPRING COMPRESSION
9	93-321-813-110		POLI WASHER
10	92-647-407-010		GEAR A
11	92-647-408-020		GEAR B
A	93-713-786-510		SCREW, +P2-3

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, CERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL



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